Abstract

Introduction: Chronic neck pain (CNP) is one of the leading causes of disability worldwide. This condition is influenced by individual, physical, and psychosocial factors. The latter contribute to the transition of the disease into a chronic state. Therefore, the therapy for neck pain appears to be a challenging process. The most used treatment in reimbursed facilities is traditional therapy, which includes kinesiotherapy, physical therapy, and massage. In such a model, the patient is mostly a passive recipient of therapeutic actions. However, the Neuro-ortopedic Activity dependant Plasticity Concept (N.A.P.) is an approach that involves the patient in the therapeutic process. It focuses on functional activities that are important to the patient's daily life, which stimulates natural motivation.

Research Objective: The aim of the study was to assess the effectiveness of the N.A.P. concept and traditional therapy in the management of discogenic cervical spine pain.

Materials and Methods: The study included 74 patients, aged 30-50 years, who complained of discogenic CNP. The participants were randomly divided into two groups. The experimental group received N.A.P. therapy, while the control group received traditional therapy. Both groups underwent daily treatment for two weeks. Measurements of the variables Numeric Rating Scale (NRS), Neck Disability Index (NID), Forward Head Posture (FHP), state anxiety (STAI-X1), and depression (CESD-R) levels were conducted before therapy, after its completion, and after a three-month follow-up period. Trait anxiety (STAI-X2) and General Self-Efficacy Scale (GSES) were only assessed at the beginning of therapy as moderating variables for the obtained results.

Results: Both therapies had a positive impact on all measured variables. However, N.A.P. therapy proved to be more effective in reducing pain intensity ($p<0.001$), improving the Cranio Vertebral Angle (CVA) angle ($p<0.001$), and Frontal Head Tilt angle (FHT) ($p<0.001$). In both groups, the achieved effects remained stable without significant changes after three months of observation for most analyzed variables. The exception was the FHT angle in the N.A.P. therapy group and the level of depression in the traditional therapy group.

Conclusion: N.A.P. therapy is more effective in reducing pain and FHP among patients with discogenic NP compared to traditional therapy.

Keywords: N.A.P. therapy, chronic neck pain, forward head posture, motor learning.