

ABSTRACT

Title: Effects of proprioceptive neuromuscular facilitation on the upper limb function of people with C4-C5 spinal cord injury

The main objective: The aim of the work was to find out what effect the use of the proprioceptive neuromuscular facilitation method will have on the function, muscle volume and ranges of movements of the upper limb in people who are affected by a spinal cord lesion in the C4 and C5 region. Furthermore, the work dealt with the subjective feeling of the patients, whether the upper extremity improved after the therapy and if it was possible to involve it more in ADL activities.

Methods: 5 probands took part in the study – all men with an average age of 41 years. A total of 3 measurements were performed for the study participants – approx. 2 months before the start of the intervention, before the start of the therapy and after the end. Values such as the volume of the arm muscles in contraction, the range of motion of abduction in the shoulder joint and flexion in the elbow joint were recorded. Another measured subject was the forearm endurance test. Participants also filled out the SCIM form before and after graduation. Probands practiced the method of proprioceptive neuromuscular facilitation of the 1st diagonal in addition to their regular therapy. They were also instructed in self-therapy and resistance band exercises. After the end of the study, the probands filled out a self-therapy questionnaire.

Results: After the end of the study, we found that there was minimal or even no improvement in both the volumes of the arm muscles and the measured ranges of motion of the shoulder and elbow joints. Forearm endurance increased in all probands. The SCIM form before and after the study showed no improvement in the categories it tests. However, the subjects felt a significant subjective improvement in the function of the upper limb, in its involvement in normal daily activities.

Key words: spinal cord lesion, tetraplegia, proprioceptive neuromuscular facilitation, upper limb, goniometry, antropometry