Abstract

Impact of Selected Factors on Effects of Hand Rehabilitation in Stroke Patients – A Pilot Study [†]

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Abstract: *Background:* The study aimed to assess recovery of hand function in patients after stroke and to determine impact of selected factors, i.e., age, sex and time from stroke onset, on effects of hand therapy. *Material and Methods:* The study involved a group of 17 patients after ischemic stroke. The assessments were performed in a Rehabilitation Hospital at a health resort in south-eastern Poland. The examinations were carried out upon the patients' admission to the Hospital (before the start of the program – Exam I) and upon completion of the three-week rehabilitation program (Exam II). The function and spasticity of the paretic hand were assessed respectively, using Box and Blocks test and Ashworth scale. *Results:* The findings show a negative correlation between scores on Ashworth scale and Box and Blocks test, both before (rho = -0.667; p = 0.0034), and at the end of the rehabilitation program (rho=-0.585; p=0.0136). Higher scores on Rankin scale correspond to lower Box and Blocks index in the dominant hand before the therapy program (rho = -0.523; p = 0.0313). Furthermore, it was shown that the patients who had higher scores in Box and Blocks test in the non-dominant hand prior to the rehabilitation also had lower scores on Rankin scale (rho=-0.485; p = 0.0484). The score in Box and Blocks test was affected by the time from stroke (p = 0.0431). On the other hand, no statistically significant relationships were found in the case of the patients' age and sex. *Conclusions:* It was shown that a change in the function of the paretic hand was affected by the degree of disability and severity of spasticity. Additionally, better effects of the rehabilitation program were found in patients up to two years from stroke onset. The findings showed no relationship between the selected factors, i.e., age and sex, and effects of hand rehabilitation. Given the fact that this was a pilot study, the findings should be validated by further research taking into account a larger group of patients with stroke.

Keywords: stroke; hand rehabilitation; physiotherapy