Abstract:

This study aims to evaluate the effects of functional electrical stimulation on motor and functional abilities of paretic upper limb in patients after stroke. Specifically detects the immediate effect of functional electrostimulation on the increase of the active range of motion, reduction of the hand spasticity degree and the improvement of functional performance. The research covered a total of 6 patients after first stroke in the basin aretria middle cerebral artery. The research sample had a homogeneous distribution of the paresis heaviness from light, moderate, to severe. The research was conducted in total of three weeks, every working day, 60 minutes a day, with 30 minutes of indicated electrostimulation and 30 minutes of testing of monitored parameters. Patients were evaluated using the Modified Frenchay scale, Modified Tardieu scale and the range of motion goniometer. Research showed in 60 observations that the functional electrical stimulation has immediate and significant effect on increasing the active range of dorsal flexion motion of the wrist (p-value 0.043). The average improvement on 95% interval estimation is 0.08. During the monitoring of the improvement of the active range of wrist dorsal flexion motion between input and output examination there was no statistically significant difference (p-value 0.63), but despite this the patients have achieved better output results compared to the initial results. Likewise, there was no statistically significant difference in the evaluation of the Modified Frenchay scale in the output monitoring from the input monitoring (p-value 0.06). Even in functional performance occurred but all patients to improve. This research has confirmed that the functional electrical stimulation has influence on the motor and functional abilities of the paretic upper limb in patients after stroke.

Key words:

Functional electrical stimulation, stroke, paretic upper extremity, Ness H200, occupational therapy