



# GAIT ANALYSIS IN PATIENTS WITH ISCHEMIC STROKE IN THE CHRONIC PERIOD

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## BACKGROUND AND AIMS

The gait of patients with chronic post-stroke hemiparesis is realized through the use of compensatory strategies that are a replacement for alternative motor deficits. They are adaptive and optimal for the ultimate motor response and can be evaluated and documented by human step analysis.

The aim of the study is to trace the effects of specialized kinesitherapeutic methodology (SKTM) on the kinetic parameters of gait in patients with supratentorial unilateral stroke in the chronic period (SUSChP).

## METHODS

The study was conducted with 67 patients with SUSChP (56 patients included in the experimental group - 32 men and 24 women, with duration of disease  $7.8 \pm 2.0$  months, and 11 patients in the control group - 9 men and 2 women, with duration of disease  $7.3 \pm 1.5$  months).

To evaluate the changes in the gait were followed cadence of 6m and 10m and the speed of movement which are the most informative kinetic parameters. Patients in the experimental group were treated with a specialized 10-day KT, which later continued to perform as an adapted exercise program at home for a period of one month. Spearmans correlation analysis was used to search a connection between changes in the different metrics.

## RESULTS

The correlation between the number of steps at 6 and 10 meters and the speed of gait is negative, with the highest significance at day 10 of the study. Increase in gait speed in patients decreases the number of steps at 6 and 10 meters.

## CONCLUSIONS

This study shows that functional limitations of gait in all patients with ISChP improved after applied 10-day SKTM that is continued as a program of exercises at home for 3 months. In absolute terms, the improvement was most pronounced on the 1st month of treatment. The effect is durable and lasts throughout the 3-month follow-up period.

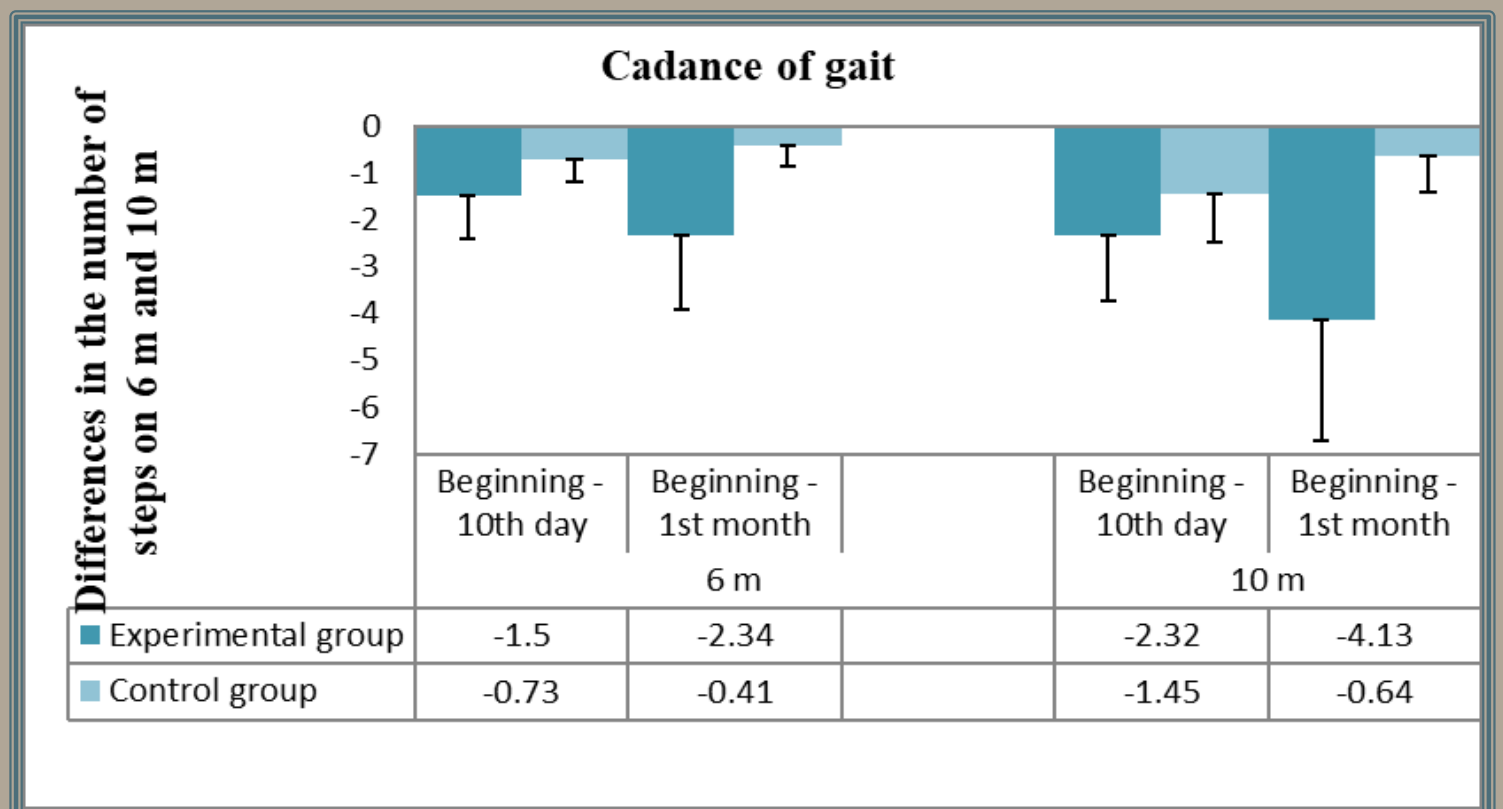


Fig. 1 Graphical representation of changes in cadence of gait - 6 and 10 meters

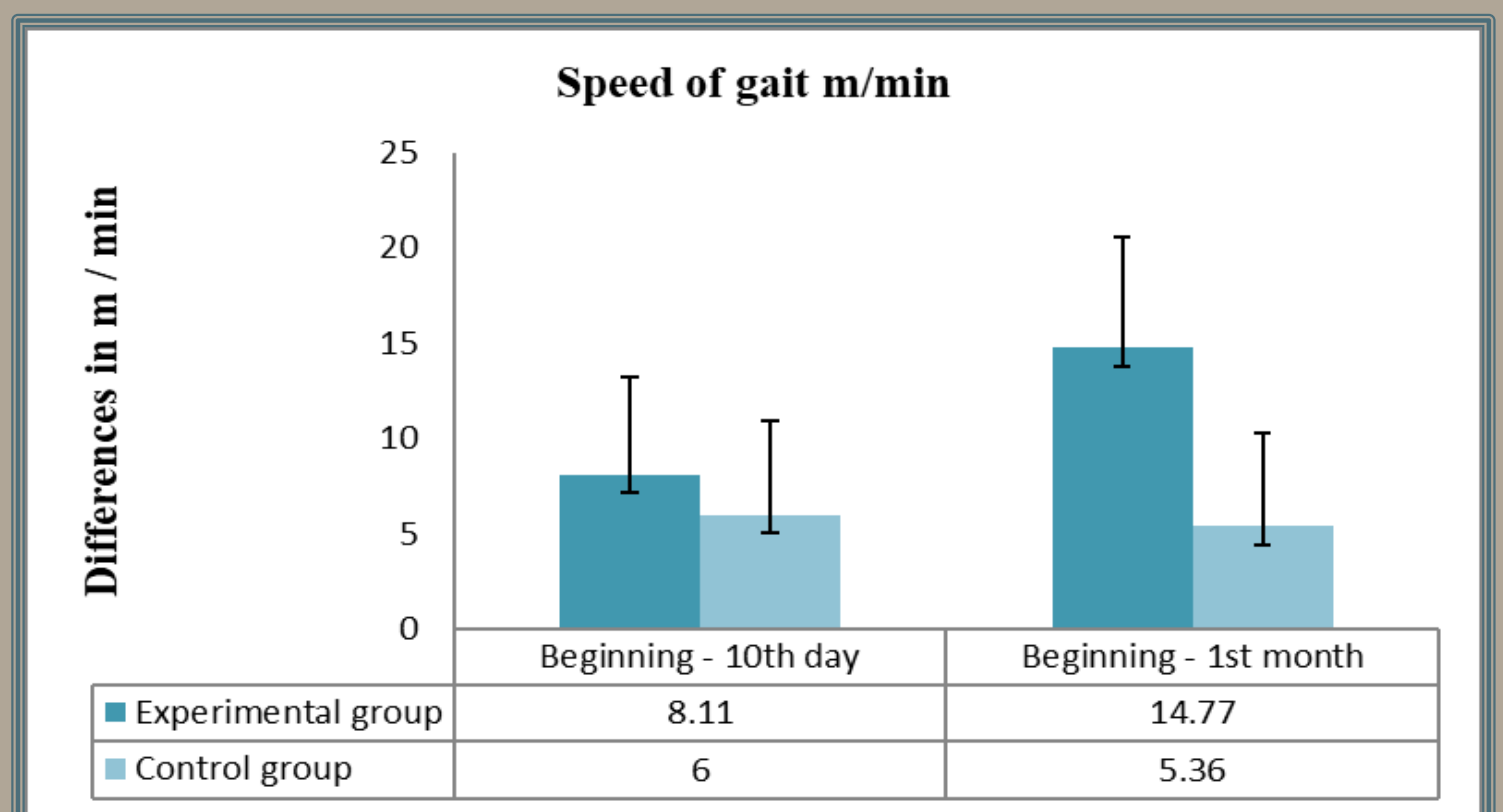


Fig. 2 Graphical representation of changes in speed of gait

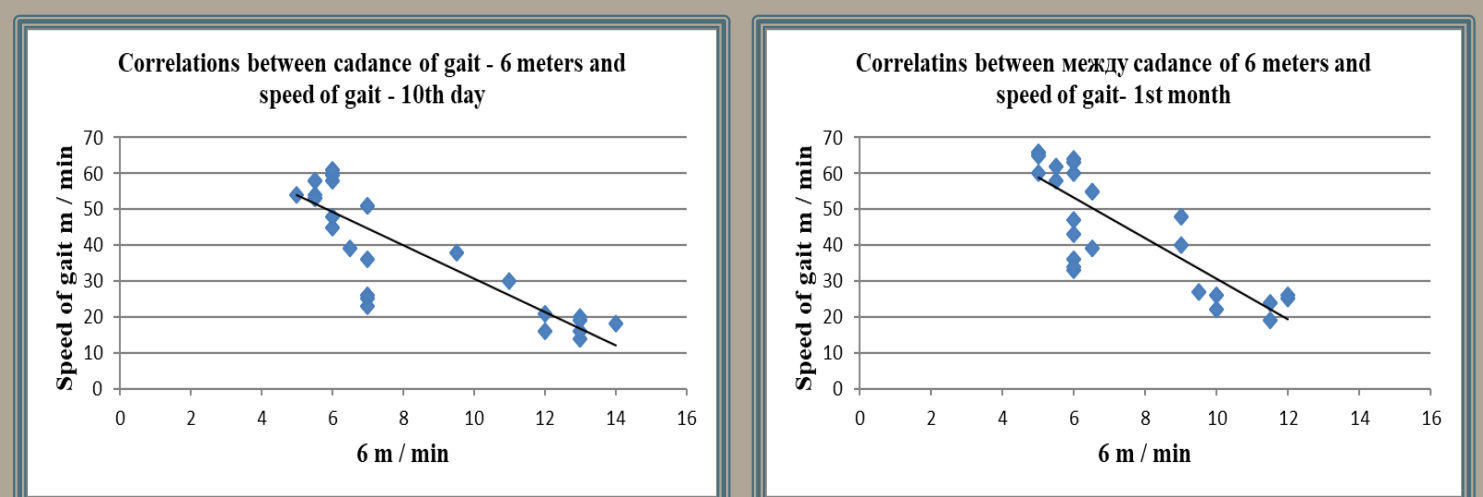


Fig. 3 Spearmans correlation analysis and connections between changes in cadence of gait - 6 meters and speed of gait - m/min

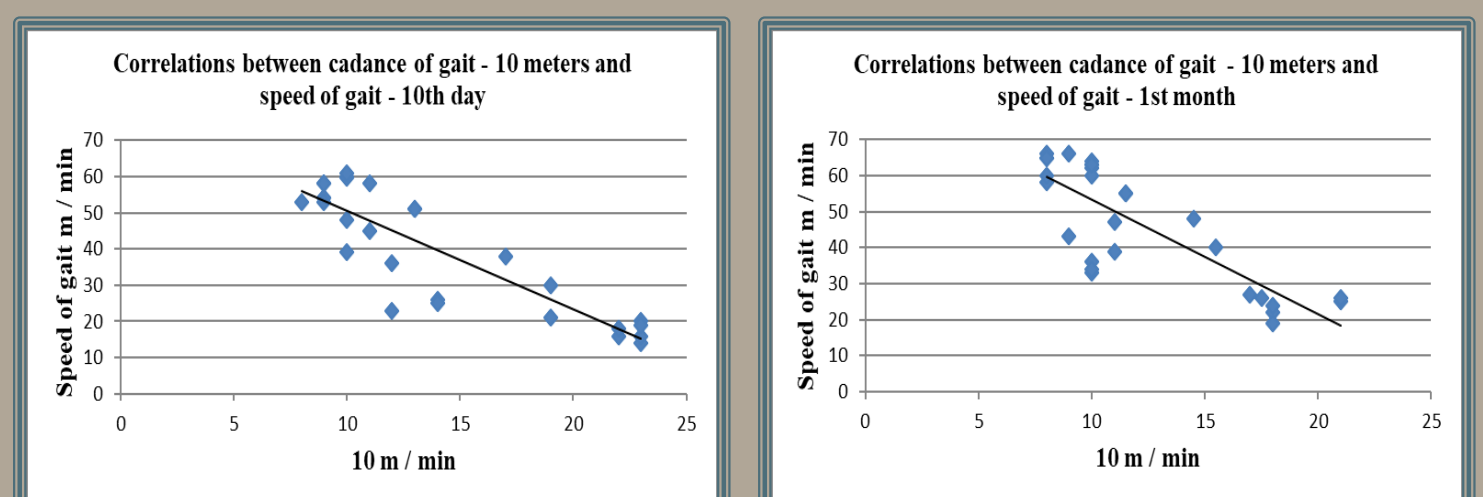


Fig. 4 Spearmans correlation analysis and connection between changes in cadence of gait - 10 meters and speed of gait - m/min