



# Influence of kinesitherapy on motor recovery and functional independence in patients with ischemic stroke in the chronic period



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## OBJECTIVE

The study aims to trace the influence of specialized kinesitherapeutic methodology (SKTM) on motor recovery and functional independence in patients with ischemic stroke in the chronic period (ISChP), which is developed on the grounds of the principles of motor control, motor learning and modern guidelines to neurodevelopmental treatment (NDT).

## MATERIALS AND METHODS

The study was conducted with 56 patients with ISChP (32 men and 24 women, mean age  $63.2 \pm 8.8$  years old, weight  $77.9 \pm 10.1$  kg, height  $169.2 \pm 6.4$  centimeters and duration of illness up to 1 year).

Assessment of motor recovery and the level of functional independence test is used to test Brunnstrom and functional independence - FIM. The stage of functional recovery and the level of functional independence were assessed at the beginning, at the 10th day, at the 1st month and at the 3rd month after the start of the kinesitherapy. Patients after 10-day daily physical therapy continued with an adapted program for home rehabilitation and requirements for it.

## RESULTS

After the application of SKTM the highest tendency towards improvement in the motor recovery and functional independence was established at the 1st month with a level of significance  $p < 0.001$ .

## DISCUSSION

The beneficial effect in patients studied remained significant at longitudinal tracking and due compliance with the basic principles of motor learning: active participation by the patient in the recovery process through verbal, tactile, visual stimuli, participation in the functional activities of the affected and unaffected side, possibly more frequent application, focus and drive activities with variations.

## CONCLUSIONS

The applied kinesitherapeutic specialized methodology continued later as adapted exercise program at home, significantly improved motor recovery and functional independence in patients with functional impairment due to ISChP.

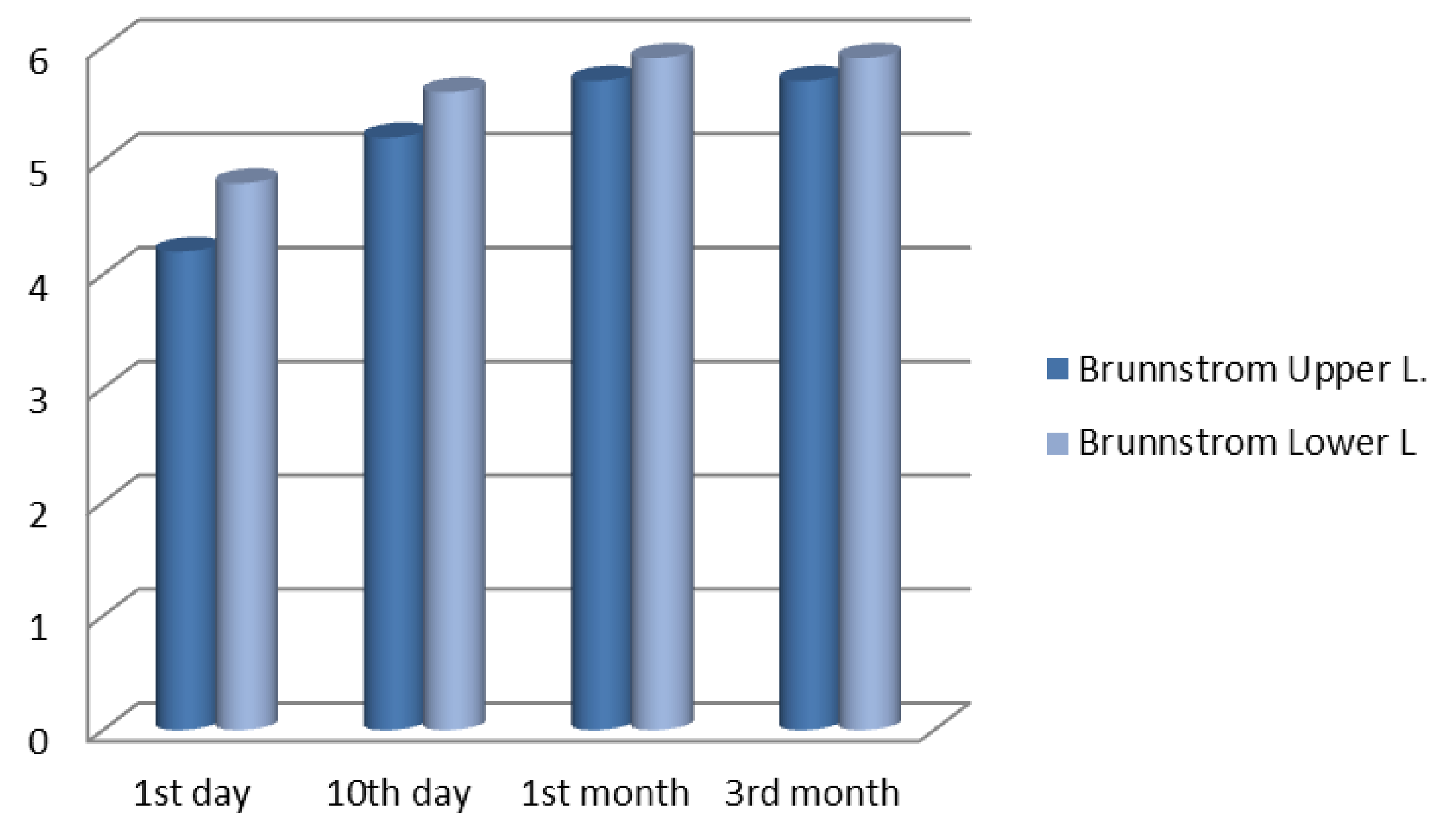


Fig.1 Graphical representation the average value of motor recovery

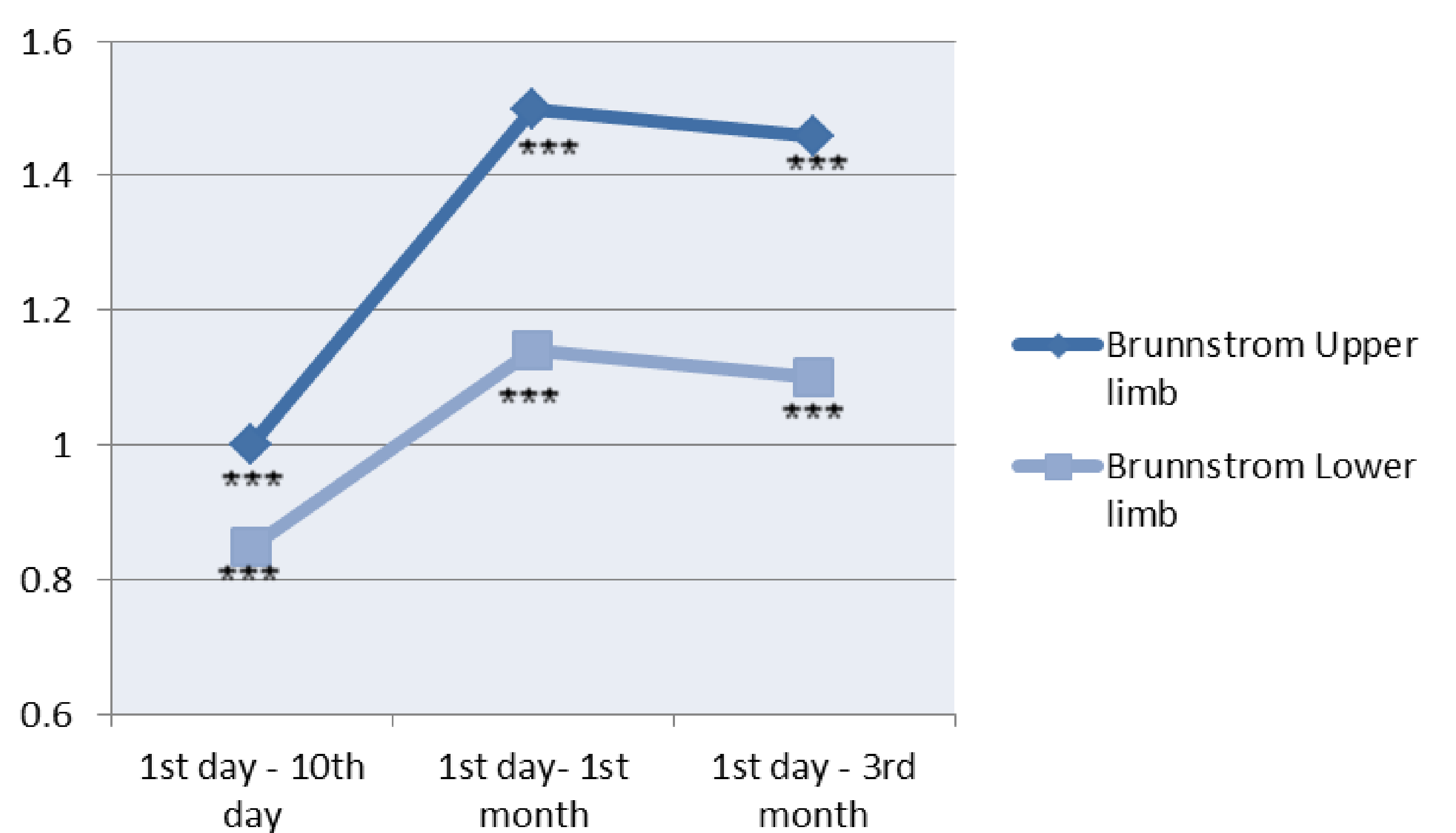


Fig.2: Changes in the stage of motor recovery, given as the ratio of results and baseline values; \*\*\*  $P < 0.0001$  = significant difference compared with baseline values.

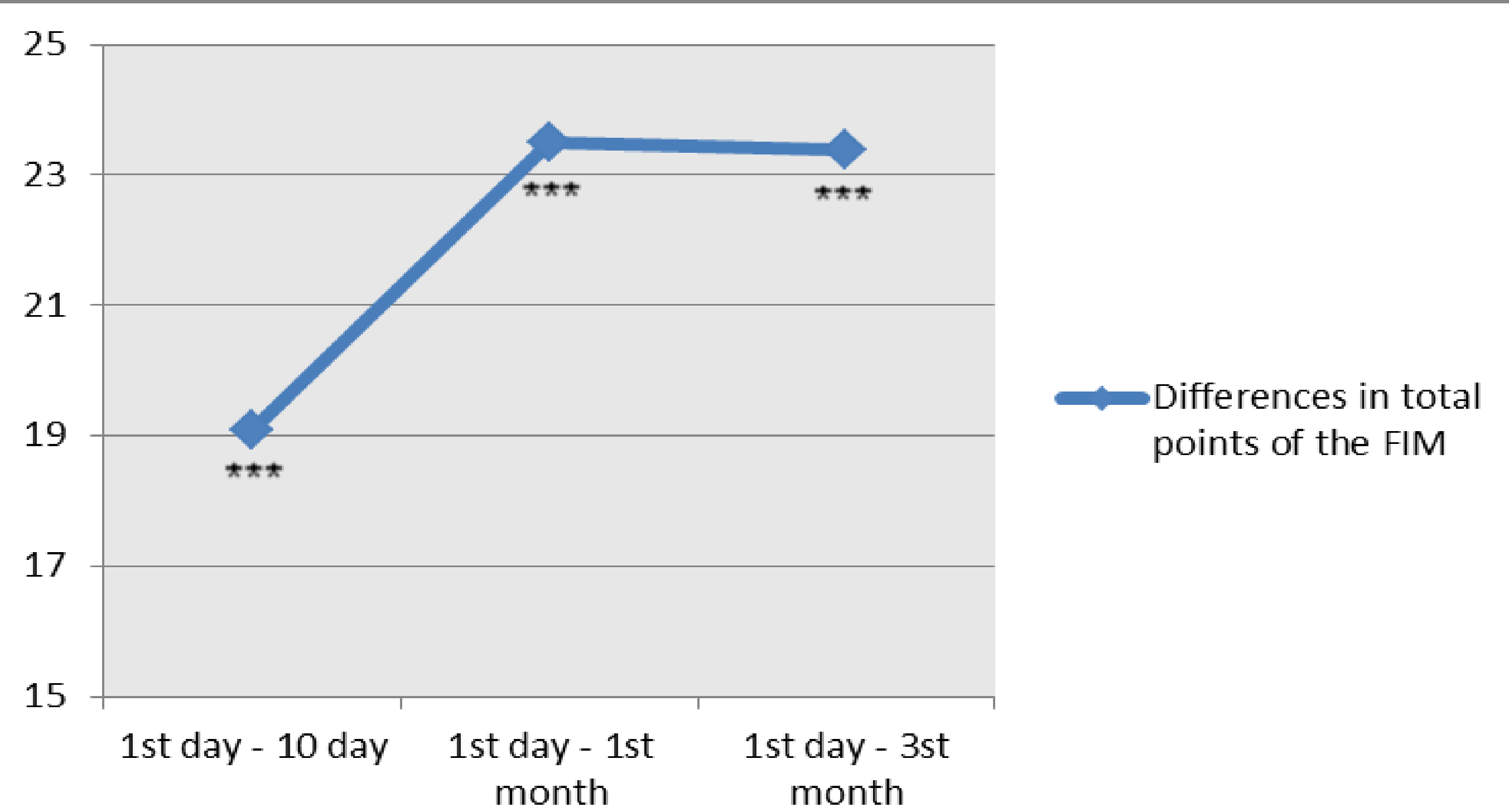


Fig. 3 Changes in the total number of points for functional independence, expressed as the ratio of the results and baseline values; \*\*\*  $P < 0.001$  - significantly different from baseline values.

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The Road  
to

motor recovery

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