A COMPARATIVE STUDY OF CONVENTIONAL PHYSIOTHERAPY VERSUS ROBOTIC TRAINING COMBINED WITH PHYSIOTHERAPY IN PATIENTS WITH STROKE.

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ABSTRACT

BACKGROUND: There has been a growing interest in the use of robotic therapy to improve walking ability in individuals following stroke.

OBJECTIVES: The aim of this retrospective study was to compare conventional physiotherapy (CP) with robotic training (RT) combined with CP and to measure the effects on gait, balance, functional status, cognitive function, and quality of life in patient with stroke.

METHODS: We retrospectively identified 107 cases of new cerebral stroke. They were allocated into 2 groups. In the RT group (n = 36), patients received RT (Lokomat; 2 times per week) combined with CP (3 times per week) for at least 30 sessions. In the CP group (n = 71), patients received a program at least 30 sessions, 5 times per week. The evaluation parameters included modified Ashworth Spasticity Scale (MASS), Brunnstrom Recovery Scale (BRS), Functional Independence Measure (FIM), Functional Ambulation Categories (FAC), Berg Balance Scale (BBS), Mini-Mental State Examination (MMSE), and Short Form-36 (SF-36) Health Survey.

RESULTS: Posttreatment results showed significant improvements for all parameters (except lower extremity MASS scores) in both groups. However, when we compared the percentage changes of parameters at discharge relative to pretreatment values, improvements in FIM, MMSE, and all subparts of SF-36 were better in the RT group (P < .05). Comparison of posttreatment evaluation parameters for categorical variables showed that the lower extremity categories in the BRS were significantly better in the RT group than the CP group (P < .05).

CONCLUSION: RT combined with CP produced better improvement in FIM, MMSE, BRS lower extremity categories, and all subparts of SF-36 of the patients with subacute and chronic stroke (up to 1 year) than the CP program.