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Effects of additional, dynamic supported standing practice on functional recovery in patients with sub-acute stroke: A randomized pilot and feasibility trial

Tobias Braun1,2, Detlef Marks2, Christian Thiel1, Dörte Zietz1, Daniel Zutter2, Christian Grüneberg1

1Hochschule für Gesundheit, Department of Applied Health Sciences, Physiotherapy Program, Bochum, Germany
2Rehaklinik Zihlschlacht, Neurorehabilitation Centre, Zihlschlacht, Switzerland

Tobias Braun, Department of Applied Health Sciences – Physiotherapy Program, Hochschule für Gesundheit Bochum/University of Applied Sciences Bochum, Universitätsstr. 100, 44789 Bochum, Germany. Email: tobias.braun@hs-gesundheit.de

Abstract

Objective: To evaluate the feasibility and preliminary effectiveness of additional dynamic versus static passive standing performed by patients with sub-acute stroke supervised by trained helpers.

Design: Assessor blinded, randomized pilot and feasibility trial.

Setting: Neurological rehabilitation centre.

Participants: Non-ambulatory participants in the sub-acute phase after stroke.

Intervention: Usual care plus additional standing training, consisting of either dynamic standing practice in a modified standing frame (intervention group, n=14) or static standing practice in a conventional standing frame (control group, n=14) for 5 weeks.

Main measures: Feasibility was assessed through occurrence of adverse events, patient satisfaction and operability of the technical device handled by trained helpers. Preliminary effectiveness was assessed with the Berg Balance Scale (primary outcome) and other measures of physical functioning.

Results: Trained helpers were capable to apply the intervention, and no adverse events occurred. Both groups were comparable at baseline. Within-group changes tended to be higher for the intervention group, but did not reach a significant level except for the Functional Ambulation Categories. Specifically, median pre-post improvements in the Berg Balance Scale tended to be higher in the dynamic (20, inter quartile range (IQR): 2–33 points) than in the static standing group (4.5, IQR: 0–16 points; U=62; P=0.052; effect size=0.478).

Conclusions: In severely affected individuals after stroke, dynamic supported standing practice can be performed safely by trained helpers. In a larger-scale phase III study, a total of 116 patients would be needed to prove the preliminary effectiveness found in this study.

stroke, dynamic supported standing practice, physical therapy modalities, balance, exercise

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