Motor Relearning Program approach improves short-term motor outcomes and reduces hospital stay after stroke

Synopsis


Question: Does the Bobath approach or Motor Relearning Program (MRP) in rehabilitation of acute stroke cause any difference in motor function, activity of daily living (ADL) or quality of life? Design: Randomised controlled trial. Randomisation was stratified according to gender and side of lesion. Setting: One general hospital in Norway. Patients: Sixty-one out of 185 eligible stroke patients (WHO criteria) were included in the study and randomised to MRP (n = 33) or Bobath (n = 28). Criteria for inclusion was first-ever stroke with hemispatial verified clinically and by CT scan. Exclusion criteria were more than one stroke, subarachnoid bleeding, tumors, other severe medical conditions or five or more points on each of the scores in the Motor Assessment Scale (MAS). The patients were considered representative of the general population. Eight patients (13%) were lost to follow-up. Interventions: The two physiotherapy programs were standardised according to background literature. Workshops and discussions were organised with the physiotherapists to co-ordinate treatment according to the two different approaches. The patients in both groups received physiotherapy five days a week for a minimum of 40 minutes while hospitalised. Besides physiotherapy, all patients received the same multidisciplinary treatment according to recommendations for stroke units. After discharge, the aim was to continue the same physiotherapy approach in different settings. Outcomes: Primary outcomes were assessed three days after admission (baseline), two weeks later and three months post stroke. Motor function was assessed by the 48-point Motor Assessment Scale (MAS) and Sødring Motor Evaluation Scale (SMES). Activities of daily living was measured by the Barthel ADL Index and quality of life by the Nottingham Health Profile (NHP). Outcome assessor was blinded to treatment allocation. Secondary outcome was length of stay in hospital, use of assistive devices and patient accommodation after discharge. Result: Groups were comparable at baseline. At two weeks, the MAS score showed relatively more improvement between the second week and third month than the MRP group. The important question is, then, what the outcome will be after a longer period of time has elapsed.

Commentary

The cost of stroke is considerable to both the individual and to society, and consequently effective treatment of stroke victims is of utmost importance. So far, a number of studies have reported that stroke patients benefit more from medical and paramedical treatment in an organised stroke unit than patients on a general medical ward. However, there is a lack of clear evidence as to which method of physiotherapy is optimal in stroke rehabilitation (Kwakkel et al 1999). Currently, physiotherapy practitioners often combine elements from various approaches depending on the clinical picture of the patient.

The study by Langhammer and Stanghelle of the effectiveness of the Bobath approach versus the MRP approach focuses on the ongoing debate of whether one approach is preferable to the other. Although the considerably shorter stay in hospital is undoubtedly important considering the cost of hospital beds, more information is needed before recommending the exclusive use of MRP over the Bobath approach. In our view, an interesting point in the present study is that from an initially slow start regarding motor function the Bobath group caught up with the MRP group. The former group showed relatively more improvement between the second week and third month than the MRP group.

The findings of the present study are not sufficient to determine which treatment approach is likely to be of most benefit to patients and society. We look forward to a follow-up study by Langhammer and Stanghelle throwing more conclusive light on this challenging question.

Marit Gustavsen, Reidun Jansen, Astrid Kjendahl and Anne Lorentzen
Sannaas Rehabilitation Hospital, Norway

References
