Early discharge to therapy-based rehabilitation at home in patients with stroke: a systematic review

Winkel A, Ekdahl C, Gard G

CRD summary

The review concluded that early discharge and home rehabilitation can reduce length of stay at hospital in stroke patients. Limited clarity in both the reporting of outcomes and in defining their relative importance, coupled with limitations of the review process, mean the authors’ conclusions should be interpreted with caution.

Authors’ objectives

To evaluate the effectiveness of early discharge and home rehabilitation for stroke patients on health and quality of life.

Searching

MEDLINE, CINAHL, EMBASE, PEDro and The Cochrane Library were searched between 1980 and 2005 for studies in English, Swedish, Norwegian and Danish; search terms were reported. Reference lists of retrieved articles were searched.

Study selection

Randomised controlled trials (RCTs) that compared early discharge and home rehabilitation with rehabilitation at hospital in patients who had suffered an acute stroke (as defined by the World Health Organisation) were eligible. Patients had to be adults (>18 years) who were living at home prior to the stroke and were included in the study within 10 days of stroke onset. Studies had to also focus on physiotherapy as an intervention and report at least one of a broad range of general outcomes (listed in the review).

The mean age of included participants was 74 years. Men and women were included in roughly equal proportions. Interventions included community-based rehabilitation services and hospital discharge teams who did or did not provide rehabilitation services. Control treatments included rehabilitation in stroke units, rehabilitation in units with specially trained staff and rehabilitation in other units mixed with day hospital or outpatient services.

The authors did not state how many reviewers selected studies for inclusion.

Assessment of study quality

Study quality was evaluated using the 10-point PEDro scale of randomisation, allocation concealment, blinding, similarity at baseline, drop-outs/withdrawals, use of intention-to-treat analysis and reporting of results. Studies were awarded a score up to a potential maximum 10. Due to the difficulties of blinding in studies in this review, scores of 8 were deemed to indicate high quality, 6 to 7 acceptable quality, 4 to 5 low quality and 3 or less unacceptable quality.

It was unclear how many reviewers performed the quality assessment.

Data extraction

The authors did not state how many reviewers extracted data.

Methods of synthesis

Due to clinical heterogeneity between studies, meta-analysis was not deemed appropriate and a narrative synthesis was performed grouped by intervention and outcomes.

Results of the review

Eight RCTs were included (n=1,122 patients, range 62 to 320). On the PEDro scale two studies scored 8, three studies scored 7 and three studies scored 6. Follow-up periods ranged from three months to five years; half of the studies had follow-up periods of around six months.
Outgoing early supported discharge services from hospital (three RCTs): There was some evidence of no effect on basic and personal activities of daily living, functional skills and falls. There was some evidence of positive effects on instrumental activities of daily living, reducing hospital length of stay, remaining at home after discharge and use of health services. There was conflicting evidence on quality of life measures.

Outgoing early supported discharge teams from hospital without rehabilitation services (three RCTs): There was moderate to strong evidence of no effect on instrumental activities of daily living and some evidence of no effect on basic activities of daily living, quality of life, satisfaction, readmission rates and use of health services. There was some evidence of positive effects on reducing hospital length of stay, being discharged home and remaining at home.

Community-based rehabilitation services after early discharge (two RCTs): There were contradictory results for basic activities of daily living and quality of life. There was moderate to strong evidence of no effect on instrumental activities of daily living, satisfaction, hospital readmission rates and use of health care services. There was some evidence of positive effects on reducing hospital length of stay.

Cost information
Costs for interventions of hospital discharge teams who did or did not provide rehabilitation services were lower than control treatments. Community-based rehabilitation service interventions had higher costs than control treatments.

Authors' conclusions
Early discharge and home rehabilitation can reduce length of stay at hospital. It might improve basic activities of daily living, but is more likely to improve patients' instrumental activities of daily living and quality of life.

CRD commentary
The review addressed a clear question supported by appropriate inclusion criteria, which were very broad for outcomes (no primary outcomes pre-specified). Attempts to identify relevant studies in English or in Nordic languages were undertaken by searching electronic databases and checking references. Language restrictions and a lack of a systematic search for unpublished studies meant that some relevant trials may have been missed. The authors did not report that they used methods such as independent duplicate study selection and data extraction to minimise risks of reviewer error and bias during the review process. Study quality was adequately assessed and used in interpreting the results of the review. Sufficient study details were provided. A lengthy narrative synthesis was presented.

The authors' conclusions appeared somewhat one-sided, being based only on outcomes with significant findings rather than summarising all of the numerous outcomes assessed. The clinical relevance of length of stay as an outcome was unclear in studies where intervention groups were discharged early and comparator groups were not (particularly as there appeared to be no differences between treatments in readmission rates). These factors, coupled with some limitations of the review process, suggest that the conclusions should be interpreted with caution.

Implications of the review for practice and research
The authors made no recommendations for practice and research.

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This is a critical abstract of a systematic review that meets the criteria for inclusion on DARE. Each critical abstract contains a brief summary of the review methods, results and conclusions followed by a detailed critical assessment on the reliability of the review and the conclusions drawn.