

Extended stroke-unit service improved independence at 26 weeks after acute stroke

Indredavik B, Fjærtøft H, Ekeberg G, Løge AD, Mørch B. Benefit of an extended stroke unit service with early supported discharge. A randomized, controlled trial. *Stroke*. 2000 Dec;31:2989-94.

QUESTION

Is extended stroke-unit service (ESUS) more effective than ordinary stroke-unit service (OSUS) for acute stroke?

DESIGN

Randomized {allocation concealed*}†, blinded (outcome assessors)*, controlled trial with follow-up to 26 weeks after stroke.

SETTING

A stroke unit in Trondheim, Norway.

PATIENTS

320 patients (mean age 74 y, 51% women) who had signs and symptoms of acute stroke according to the World Health Organization definition; had a Scandinavian Stroke Scale score of 2 to 57; were living at home before the stroke; and were included within 72 hours of admission to the stroke unit and within 7 days after onset of symptoms. Follow-up was complete.

INTERVENTION

160 patients were allocated to OSUS care, which was defined as stroke-unit treatment according to evidence-based recommendations, with further inpatient rehabilitation when long-term rehabilitation is needed, and a follow-up program organized by the primary health care system after discharge. 160 patients were allocated to ESUS care, which was defined as OSUS combined with service

from a mobile team that provided early supported discharge, coordination of further rehabilitation, and follow-up in close cooperation with the primary health care system.

MAIN OUTCOME MEASURES

Main outcomes were global independence (Rankin Scale score ≤ 2) and independence in activities of daily living (ADLs) (Barthel Index score ≥ 95) at 26 weeks after stroke. Secondary outcomes included proportion of patients discharged home and proportion living at home at 6 and 26 weeks; mortality at discharge, 6 weeks, and 26 weeks; and average length of hospital and stroke-unit stay.

MAIN RESULTS

Analysis was by intention to treat. At 26 weeks, more patients in the ESUS group were globally independent than were those in the OSUS group (Table); group differences for independence in ADLs were not significant. More patients in the ESUS group were discharged home and living at home at

6 weeks (Table) but not at 26 weeks. The ESUS and OSUS groups did not differ for mortality at discharge, 6 weeks, or 26 weeks. Patients in the ESUS group had a shorter average hospital stay (18.6 vs 31.1 d, $P = 0.03$); length of stroke-unit stay did not differ.

CONCLUSION

At 26 weeks after acute stroke, patients who received extended stroke-unit service were more likely to be independent than were patients who received ordinary stroke-unit service.

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*See Glossary.

†Information provided by author.

Extended stroke-unit service (ESUS) vs ordinary stroke-unit service (OSUS) for patients with acute stroke†

Outcomes	ESUS	OSUS	RBI (95% CI)	NNT (CI)
Independence at 26 wk	65%	52%	25% (4 to 52)	8 (5 to 44)
Discharged home	64%	46%	41% (15 to 74)	6 (4 to 13)
Living at home (6 wk)	74%	56%	34% (14 to 59)	6 (4 to 12)

‡Abbreviations defined in Glossary; RBI, NNT, and CI calculated from data in article.

COMMENTARY

Several randomized trials have explored the effects of early supported discharge services provided to stroke patients by multidisciplinary rehabilitation teams (1). These services, which attempt to bridge the gap between hospital and home by allowing patients to be discharged earlier and to receive more rehabilitation at home, indeed appear to facilitate earlier discharge home without jeopardizing recovery (1). Previous trials, however, were rather small and focused only on patients who could be discharged directly home.

The study by Indredavik and colleagues is unusual in that they have developed an early supported discharge and outreach service that aims to assist not only patients returning home but also those transferred to other rehabilitation facilities or to nursing care. The team aimed to provide a comprehensive assessment of patients' needs, detailed planning of discharge from the hospital, and close liaison with other involved services.

The trial had a high standard of quality, and the weaknesses (e.g., inability to blind patients to the treatment they were receiving)

are largely unavoidable in this type of trial. The positive outcomes showing improved recovery are all the more remarkable when we consider that the control group received the services of a highly effective stroke unit (2).

Some of the remaining uncertainties, such as whether we can generalize the findings to other settings in other countries, will be explored in a combined analysis of all comparable trials of supported discharge (1). In the interim, the study by Indredavik and colleagues lends considerable support to the view that many patients with stroke can benefit from an earlier return home with close coordination of care between the hospital and primary care sectors.

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References

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