



Cochrane Nursing Care Field (CNCF) – Cochrane Review Summary

Early supported discharge services for people with acute stroke: A Cochrane review summary

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Research question

What is the best available evidence of the effectiveness of early supported discharge services compared to traditional in-hospital care for people with acute stroke in the process of recovery and better clinical outcomes?

1. Background

Stroke is a serious health problem that affects approximately 15 million people worldwide each year (Anon, 2018). This entity remains the second leading cause of death and third leading cause of permanent disability, adding significant burden and cost to the health care system (Johnson et al., 2016). Conventionally, stroke patients rely on substantial in-hospital medical treatment and rehabilitation to achieve good clinical outcomes leading to much substantial economic costs (Langhorne, 2017). A systematic review has highlighted that an organised in-patient stroke unit care is more effective in reducing death and disability. Despite all, questions have been raised about stroke service provision, particularly the existence of other effective alternatives to in-patient care to best provide after discharge care to stroke patients.

Another review focused on alternative approach for stroke patient with an early discharge from hospital and rehabilitation at home, also termed as early supported discharge (ESD). ESD service is intended to improve the transition of stroke patients between hospital and community care and to provide the continuity of rehabilitation in home setting. Again, it remains unclear on how effective the ESD services from in-patient hospital services in best providing care after discharge from hospital among stroke patients.

A systematic review was warranted to evaluate the existing evidence on how effective this ESD services are in comparison to the traditional in-hospital patient care services in providing assistance to the stroke patients in their recovery process with better outcomes taking into account the affordability of these services.

2. Objective/s

The main objectives of this review was to assess the effectiveness of

conventional in-hospital care services offered to stroke patients compared to a policy of an early supported discharge services with rehabilitation provided in the community in view of: 1) an accelerated discharge to home, 2) provide equivalent or better stroke patient and carer outcomes, 3) enhance stroke patients and carers satisfactory, and finally 4) to provide adequate justifiable resources and assistance during the recovery process.

3. Intervention/Methods

The reviewed included all randomised controlled trials (RCTs) that allocated individual stroke patients to receive either conventional in-hospital care with discharge procedures or alternative services that aimed to accelerate the patient's discharge, reduce the duration of in-hospital care and provided rehabilitation and support in a community setting. All patients who were admitted to the hospital with a clinical diagnosis of stroke defined as an acute focal neurological deficit caused by cerebrovascular disease was included as participants for the study. The severity of stroke was recorded as the level of disability at randomisation using activities of daily living (ADL) status where possible. The randomisation was performed relatively early after hospital admission and before the hospital discharge.

All trials that focused on stroke patients that evaluated any intervention aimed to accelerate discharge from hospital with the provision of support, with or without a 'therapeutic' rehabilitation intervention in a community setting (ESD) were also included in the review. Specific type of intervention were recorded but was not used as an exclusion criterion in the review.

The main focus of the review was the patient primary outcome with the composite end-point of death or long-term physical dependency recorded at the end of scheduled follow-up. The secondary outcomes include activities of daily living score, extended ADL, subject status and mood or depression score, carer outcomes and patient and carer satisfaction. The review also analysed the length of index hospital stay and other resource outcomes such as cost of in-patient stay and cost of service interventions.

Two review authors independently examined the trials, categorized them on their eligibility and extracted the data. All trials were analysed

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for subgroups of patients and services, particularly intervention that was coordinated by the multidisciplinary team. The authors used GRADE to assess the quality of the body of evidence and risk of bias for the included trials. The risk of bias was assessed using Cochrane's 'Risk of bias' tool as described in the Cochrane Handbook for Systematic Reviews of Interventions. The authors also identified the method of concealment of treatment allocation, the presence of an intention-to-treat analysis, and the presence of blinding of outcome assessment as potentially important factors for sensitivity analyses but not as exclusion criteria.

4. Results

Seventeen clinical trials that recruited 2422 stroke patients met the eligibility criteria and were included in this review. Patients who were recruited had moderate degree of disability (able to walk with assistance) and were sufficiently well to return home. The ESD group showed moderate-grade evidence with a reduction in the length of hospital stay that was equivalent to approximately six days with a mean difference (MD) of -5.5 ; 95% confidence interval (CI) -3 to -8 days and $P < 0.0001$.

The primary outcome was available for 16 trials with 2359 participants. The overall outcome of death or dependency at the end of scheduled follow-up for median of 6 months showed significant reduction of odds ratios (OR) of 0.80 with 95% CI 0.67 to 0.95, $P = 0.01$ that equates to five fewer adverse outcomes per 100 patients receiving ESD services.

Sixteen trials involving 2116 participants included results for death with OR 1.04, 95% CI 0.77–1.40, $P = 0.81$ and twelve trials with 1664 participants reported death or requiring institutional care with OR 0.75, 95% CI 0.59–0.96, $P = 0.02$ respectively. There were some small improvements seen in the participants extended activities of daily living scores with standardised mean difference (SMD) 0.14, 95% CI 0.03–0.25, $P = 0.01$ and satisfaction with services OR 1.60, 95% CI 1.08–2.38, $P = 0.02$, both indicating low-grade evidences.

The review found there were no clear differences in participants' activities of daily living scores, patients' subjective health status or mood, or the subjective health status, mood or satisfaction with services of carers. In addition, the review found low-quality evidence that the risk of readmission to hospital was similar in the ESD and conventional care group with OR 1.09, 95% CI 0.79–1.51, $P = 0.59$. The evidence for the apparent benefits were weaker at one- and five-year follow-up and the estimated costs from six individual trials ranged from 23% lower to 15% greater for the ESD group in comparison to usual care.

In a series of pre-planned analyses, the greatest reductions in death or dependency were seen in the trials evaluating a co-ordinated ESD team with a suggestion of poorer results in those services without a co-ordinated team with subgroup interaction at $P = 0.06$. The review

discovered that stroke patients with mild to moderate disability at baseline showed greater reductions in death or dependency than those with more severe stroke with the subgroup interaction at $P = 0.04$.

The review revealed that the length of initial stay in hospital was reduced by approximately five days for the ESD group and they were more likely to be independent in daily activities.

5. Conclusions

The review concluded that the current available quality of evidence were moderate for the main outcomes of death, discharge home or disability due to poor design or missing data. There were more missing data for other outcome measures and downgraded the review as a low-quality evidence. As a result, authors were unable to draw any firm conclusion about the effectiveness and outcomes of ESD services compared to the traditional in-hospital patient care for stroke patients.

6. Implications for practice

Findings of the review concluded that selected in-hospital stroke patients who received support from ESD services returned home earlier, lived independently at home six months post stroke and expressed their satisfaction with services received and had no adverse effects in regards to hospital readmissions compared to patients who received conventional care. Although, further clarity is required regarding specific models of ESD services, there is sufficient evidence to pilot the stroke ESD services as part of the comprehensive system of stroke care.

7. Implications for research

Currently, the conclusions are based on a relatively modest number of trials that have been published in the last decade. Hence, more research is required to further define the important characteristics of effective ESD services and outline the balance of costs and benefits for patients and service groups. Future research should place a greater emphasis on ESD services to mixed population in all healthcare settings and further address those with shift tasks to families or support workers and compare the results obtained in this review.

References

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