Community outreach rehabilitation

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Abstract

Objective: to review controlled studies evaluating the effectiveness of community rehabilitation schemes developed to facilitate effective discharge from hospital.

To briefly describe the community outreach rehabilitation scheme which has been developed in York, UK.

Results: in the last 10 years, 9 controlled trials were identified of which 6 resulted in improved outcome. There were no overall or mixed outcome differences observed in the other 3.

Cost analysis calculations were controversial. However, in 4 of the studies early structured discharge appeared to result in cost savings—mainly by reducing hospital length of stay.

Conclusion: though the studies were heterogeneous in design and involved different patient groups, community rehabilitation schemes appeared to be effective in facilitating earlier discharge from hospital.

Introduction

In recent years there has been a general increase in community rehabilitation schemes to facilitate discharge from hospital, prevent hospital re-admission and try and improve the mental and physical health of patients and their carers. In this paper, I will discuss the findings of studies which have been evaluated with a concurrent control group, and which have been published in the last 10 years.

These trials cover a number of different underlying medical conditions and therapy interventions. Furthermore, study designs are different, though all have been evaluated in elderly subjects. Schemes which have been defined as ‘Hospital-at-Home’ have been excluded, as these offer a greater degree of social and nursing support and are to be discussed in the ‘Hospital-at-Home’ section of this supplement.

I will also discuss the development of the York Community Outreach Teams along with the successes, failures and challenges which will be faced in the forthcoming years.

Study review

Wade et al. [1] looked at the provision of a community stroke rehabilitation team and assessed if it affected rates of hospital admission and ability to be discharged home early. Eight hundred and fifty seven patients were included in the study and were non-randomly allocated to the supportive care group (N=440) or those in different district nursing units for whom the team was unavailable (N=417). There were no significant differences between the groups, with similar hospital admission rates as well as the proportion able to be discharged home early. Likewise, there was no difference in measures of functional recovery, emotional adjustment or carer stress.

Anand and Pryor [2] evaluated home rehabilitation for patients with a diagnosis of fracture neck of femur. This study was developed in the context of the Peterborough ‘Hospital-at-Home’ programme and I included it for discussion in this section as short term community rehabilitation was available. As the scheme was only run in a certain catchment area, those who would have been suitable for intervention but who lived outside the control area, were used as controls.

Only 40% of hip fracture patients were deemed appropriate for this early discharge scheme and outcomes were mixed. The intervention group did spend less time as in-patients, but had more fracture-related re-admissions compared to the control group. They also regained their pre-injury independence more rapidly, but within several months the groups were equal in their functional capacity. There were no mortality differences. The early discharge scheme was evaluated to be on average £722 per patient more costly than conventional care, but the effects of substituting Social Services or formal health care services were not included in the economic evaluation. Hence the true costs were not calculated.

More equivocal findings were found by Townsend et al. [3]. In this study, the effects of multi-disciplinary intervention that involved in-hospital contact, team support on the day of discharge and fairly intensive
contacts during the first two weeks at home were compared against a controlled group with no interventions. The study was large (N=903) and of a randomized controlled design. At 3 months there was no difference between the groups but significantly fewer re-admissions had occurred in the intervention group. There were also financial savings, though the cost effectiveness calculations were unsophisticated and conclusions may be invalidated in that 28% of the study group had died.

Martin et al. [4] evaluated the intervention in a small carefully selected group of patients (N=54) thought to be suitable subjects to help them remain at home despite their initial post-discharge frailty. Interventions included intensive nurse managed multi-disciplinary services in their home for up to 6 weeks after discharge. The intervention did appear to be effective in that the group had fewer re-admissions and were likely still to be living at home at one year. However, there were no differences in mortality, physical or mental function or moral.

In Gloucester, Donald et al. [5] evaluated the effects of a multi-disciplinary team (including a nurse, occupational therapist, physiotherapist and multi-purpose worker) to help the discharge of a carefully selected group of patients. Thirty patients were included and were compared against a similar thirty patients who had standard discharge arrangements. The results of this study showed that the intervention was successful in that their length of stay was reduced by 5 days. However, at 6 months there was no difference in the proportion of people still alive and living at home or in their functional status, morale or use of services.

More recently there have been two well conducted randomized stroke rehabilitation trials, the Bradford Community Stroke Trial (BCST) [6] and Domiciliary Rehabilitation Stroke Study in Nottingham (DOMINO) [7]. The best compared home physiotherapy with after care in the day hospital (N=124). The study demonstrated that the home physiotherapy group had greater functional independence and there was a reduction in carer stress. Patients were assessed at 2 and 6 months post-discharge and thereafter no further information was collected.

DOMINO [7] was a stratified randomized trial (N=327) in which an in-home rehabilitation team was compared with routine hospital rehabilitation services in the outpatient and day hospitals for subjects recovering from a stroke. Patients were recruited either from a stroke unit or general care on the elderly wards. At 6 months no differences in functional ability or health perception were observed but sub-group analysis indicated domiciliary rehabilitation from the stroke unit (who were relatively younger and fitter) had better household and leisure abilities than their control counterparts. In comparison, patients discharged from the local geriatric unit were more likely to die or become institutionalized than those randomized to hospital based rehabilitation.

At 12 months more geriatric discharges than the control group had a bad outcome. However, the original advantage observed for the stroke unit patients had disappeared. The authors concluded that for frail elderly stroke patients, the day hospital rehabilitation appeared to offer the best quality of care.

Regarding cost benefits, the BCST found that the domiciliary rehabilitation had reduced costs (£385 versus £620). This was because unit staff costs were cheaper for home therapy in that they had fewer visits over the treatment period than the day hospital attendance’s. In the DOMINO study, the elderly care patients domiciliary in put was cheaper than the hospital based regime (£486 versus £964). For stroke unit patients, hospital care was cheaper than domiciliary care (£468 versus £925) the same being true for the general ward patients (£266 versus £367). Here again it appeared that the patients attending day hospital had twice as much care and the costs per therapy session in hospital were less expensive than domiciliary care [8]. These contrasting figures highlight the difficulty in assessing financial costings of services and understanding issues of appropriate staffing in teams of skill mix, therapist-to-patient ratio and duration of treatment.

There have also been studies from outside the UK. In Sweden, Melin et al. [9] conducted a randomised control trial (N=249) assessing the effectiveness of post-hospital interdisciplinary home care against a control group. The interventional team included a physician, physiotherapist, 24 hour nursing care and included older patients with a wider range of diagnoses. Patients had functional limitations and at least one chronic condition. Follow-up was for 6 months and outcomes for mortality and assessments were made of functional status and ability to walk outdoors. The trial gave positive findings. In the intervention group, there was increased probability of walking independently. There was also a trend in the direction of improved functions as measured by ADL and IADL.

In an Australian study [10], length of stay was evaluated in patients who had sustained a fractured neck of femur before and after the deployment of a post-discharge multi-disciplinary team. Six hundred and fifteen patients were studied in the ‘after group’ and the intervention appeared to result in a reduction in the length of stay from 28 to 19 days. Not surprisingly this was associated with reduction in costs.

### York community outreach teams

The community multi-disciplinary outreach teams were developed in York in 1988 following the closure of long stay wards and hence the acquisition of revenue to fund new schemes. York Health Trust department of medicine for the elderly runs an age related (75 and over) and sectorized service, therefore four sectorized teams were developed consisting of a consultant geriatrician, a senior physiotherapist, a senior occupational therapist, specialist...
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liaison nurse with expertise in discharge planning and a social worker each covering a geographical area. The initial remit of the teams was to identify patients in geriatric beds who may benefit from ongoing team support on returning home and thus facilitate an earlier hospital discharge.

In the first few years, referrals were only taken from within the department but in 1992 the decision was made to expand the services to all areas of the acute hospital. In particular, this led to a large increase in referrals for follow up of patients discharged after orthopaedic trauma.

A further change (also in 1992) was the development of hospital ‘In-reach’. Here the teams take direct referrals from general practitioners. Whoever is thought to be the most appropriate specialist will arrange a direct assessment at home and organize care. Occasionally this involves the introduction of other hospital and rehabilitation services, though usually only one practitioner is involved with each referral. Over the last 10 years there has been a steady increase in referrals with about a quarter coming directly from primary care, one quarter from medicine for the elderly wards, one quarter from orthopaedics and one quarter from other sources. The service is overstretched and probably needs to be expanded. These stresses have also highlighted the need to review the skill mix. Though not formally researched, the original outreach teams have had two major evaluations which have shown effective working and probable cost effectiveness. More recently, the stroke services were expanded to form a stroke community outreach team which works alongside the existing teams. This scheme has been formally evaluated by the Nuffield Institute and has shown that patients have undergone a significant improvement in ADL and IADL.

With the development of Primary Care Trusts and closer working relationships with the local Social Services department, it is the intention to make the ‘outreach’ teams more accessible to community services. This may allow earlier therapy interventions in the patients’ own home and prevent admission into hospital or institutional institutions. Ultimately this may also lead to comprehensive multi-disciplinary community assessments for people being considered for long term care. To allow these changes to occur there will need to be both a restructuring and review of the skill mix in the teams but also an increase in the numbers of staff.

Summary

Community outreach rehabilitation teams appear to be a valuable tool in facilitating discharge from hospital and improving patients’ function when they return home. Though it is hard to measure improvement objectively, several studies have tried to evaluate the success of discharge schemes and generally found this to be successful and at least cost-effective. Trials have generally been small and structures of teams, services and population are different. It is difficult to argue that one scheme is better than another. Future studies should address this question.

References


