Access to In-Patient Stroke Services and Multidisciplinary Team (MDT) Rehabilitation: Current Demands and Capacity

Abstract:

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Introduction

Stroke is the third most common cause of death and the most common cause of acquired major physical disability in Ireland. There is a very high incidence of stroke, with nearly 11,000 new cases in Ireland every year7. In 2007, the Cost of Stroke in Ireland (COST) report showed that less than 7% of patients are being spent on rehabilitation of survivors of stroke, an average spend of just over €200 per person per year. It was proposed that improvements in acute stroke services could save 750 people per annum from lifelong dependency or death, and lead to a saving of €13 million per annum5. The Irish Heart Foundation Guidelines for Stroke Care suggested that, after having a stroke, patients should be cared for in an acute stroke unit (ASU). An Acute Stroke Unit (ASU) is a specialised unit dedicated to the treatment of stroke and TIA (IHF 2010). A retrospective chart review was carried out, recording activity statistics of all patients admitted with acute stroke over a three-month period. 73 patients (male=40, 54.8%) were included. Patients were discharged from the stroke service after a mean stay of 20.2 days (SD.= 15.3). 76.7% (N=56) of patients were admitted to the acute stroke unit (ASU). The mean length of time from admission to first assessment 3.4 days (SD. 2.68), with an average of 138 minutes of treatment received per day across all disciplines. This is compared to the IHFs recommendation of patients being assessed within 24-48 hours of admission and receiving 180 minutes of treatment across all disciplines. As demands for stroke MDT services increase, it is important to recognise the benefits of increasing staff and resources to maintain and continue to improve standards of care.

Methods

A retrospective analysis was carried out of the acute stroke service at Beaumont Hospital, Dublin. Patients admitted to Beaumont Hospital with acute stroke (infarction or haemorrhage), over a three-month period (March-May 2012) were included in the study. Therapy activity statistics were kept for all patients admitted, including time spent with each patient and interventions implemented by the medical and MDT. Demographic information, stroke type, length of stay in the ASU and the hospital were recorded for these patients using a standardised proforma derived from the IHF and local stroke care guidelines. Information was retrieved from hospital charts, hospital computer statistical programmes, the Patient Information Profile Explorer (PIPE) and through discussion with the MDT. Results were analysed using Microsoft Excel. The study was approved by the Beaumont hospital Clinical Governance and Audit Office.

Results

73 patients (male=40, 54.8%) were included in this study. Three quarters (76.7%) of patients were admitted to the acute stroke unit (ASU). The mean time from admission to MDT referral was less than 2 days and the mean time from referral to assessment approximately 1 day. The length of treatment varied across disciplines, but was on average 1-2 weeks in duration. Table 1 outlines the average times for referral, assessment and treatment for each discipline.

<table>
<thead>
<tr>
<th>Discipline</th>
<th>Average Time (weeks)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Speech and Language Therapy</td>
<td>1</td>
</tr>
<tr>
<td>Physiotherapy</td>
<td>2</td>
</tr>
<tr>
<td>Occupational Therapy</td>
<td>4</td>
</tr>
<tr>
<td>Dietetics and Nutrition</td>
<td>4</td>
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</tbody>
</table>

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28.8% (N=21) of patients were referred to Dietetics and Nutrition. 28.8% (N=21) of patients were referred to OT. 24.7% (N=18), Dietetic 28.8% (N=21) and OT 32.9% (N=24). Patients were referred to a variety of services, including both in-patient and out-patient rehabilitation services. Nearly 17% (N=11) of patients that were discharged to the hospitals off rehabilitation unit at St Josephs Rehabilitation Unit Raheny. On discharge, nearly two-thirds (64.4%, N=47) of patients went home or to live with their families. 17.8% (N=13) of patients went to another ward for ongoing rehabilitation. The majority of patients (74%, N=56) were discharged from the ASU. Of those patients, over half (47%, N=33) were referred to the MDT for ongoing rehabilitation. During this study period patients spent an average of 14.6 (SD= 15.1) days in the ASU. If the length of stay was shorter than the percentage of patients that were not admitted to the ASU may be reduced. Patient care is greatly enhanced by treatment in a stroke unit, thus it would be of benefit to the patient to spend their initial treatment time in the ASU. There are many reasons that could affect this length of stay, including bed availability on other wards, the extent of the illness of the individual patients and the needs of patients to continue receiving specialised care, which may only to be available within the ASU.

Patients who were not admitted to the ASU did not receive an initial swallow screening test. At the time of the study, only the nurses who worked in the ASU were trained to do this test. It may be of benefit to teach staff on different wards managing stroke patients how to do this test following appropriate training. The typical patient who was treated by the MDT was 80 years of age and had a length of stay of 138 minutes of direct care. The IHF guidelines suggest that patients are offered a minimum of 45 minutes of each active therapy for a minimum of five days a week. This means each patient who is being seen by. Currently many patients are not receiving the recommended amount of treatment. This study showed higher levels of onward referral to rehabilitation than INASC, where there was less emphasis on the importance to rehabilitation services. It has been reported that intensive rehabilitation up to 6 months may lead to improvements in mobility and activities of daily living highlighting the need for timely onward referral for patients to improve outcome.

The length of time from admission until referral to MDT, and referral to first assessment was longer than the recommended 24 hours in the IHF guidelines. There was generally a two-day delay for patients to be referred to the appropriate services and the patients are seen within 24-48 hours of referral being received. Reasons for non-compliance with guidelines were being received too late or patients were too unwell to engage in rehabilitation. Furthermore there appeared to be a longer period of time until referral to Dietetics, 3.24 (SD, 3.6) days compared with less than 2 days for other disciplines. It is unclear as to why this was the case. All disciplines responded to referrals in accordance with local guidelines with physiotherapy and SLT responding within 1 day and OT responding within 2 days for most patients. No discipline provided an average of 45 minutes of treatment daily per patient with the exception of OT. The provision of longer daily treatment within the current health setting, although in accordance with the guidelines, may be partially the reason for an extended response time to refer. The longest referral times for patients referred to dietetics and SLT, which may be indicative of patients continuing to display swallowing difficulties and requiring ongoing nutritional support. This is one example of how the information is important to refer patients appropriately. At the weekly meetings, the MDT discuss all patients referred to the each discipline. It was decided at these meetings that some of these patients did not require therapy from these disciplines: SLT (6.8%), Physiotherapy (6.7%), Occupational therapy (5.1%) and Dietetics and Nutrition (4.8%).

As demands for stroke MDT services increase, it is important to recognise the benefits of increasing staff and resources to maintain and continue to improve standards of care. However, it must be acknowledged that in the current economic climate this will be challenging and the existing resources may be stretched. Training of more staff to conduct an initial screening for swallow disorders has been recognised as an area of potential improvement in this hospital setting. There may be an increased need for patients to be referred to the MDT. Therefore, the present study was undertaken to provide a precise estimate of interval in hours rather than days would be preferable in this study. This would provide a more accurate picture of the overall system and highlight the areas of delay of treatment.

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