Do people with pre-existing cognitive impairments receive less stroke rehabilitation?: an observational cohort study

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Background

• 1/10 have diagnosis of dementia prior to first stroke
• Pre-existing dementia/cognitive impairment associated with poorer outcome
• Rehabilitation recommended for ALL patients
• Barriers to stroke rehab - time and priority clinicians give patients
• Some patients may have pre-clinical symptoms of dementia
Aim

• To examine whether there was a difference in amount of stroke-specific rehabilitation received by people with and without pre-existing cognitive impairment/dementia.
Method

• Setting: Four inpatient stroke rehabilitation units.
• Participants: Consecutive sample of stroke patients: capable of giving informed consent/person available to act as a personal consultee.
• Data: Collected from clinical notes over 8 weeks
• Measures:
  o Number of inpatient physiotherapy (PT) and occupational therapy (OT) sessions offered during the first 8 weeks post-stroke
  o Referral to Early Supported Discharge (ESD)
  o Length of hospital stay (censored at eight weeks)
  o Discharge destination
Groups

Documented dementia diagnosis on admission
n = 9 (7%)

e.g. OT documented a patient had pre-existing memory problems based on history from relative
n = 24 (17%)

No documentation re: pre-stroke cognitive problems
n = 106 (76%)

Pre-stroke cognitive impairment group
n = 33

No pre-stroke cognitive impairment group
n = 106

Total 150 patients consented, data collected for 139
<table>
<thead>
<tr>
<th>Type of therapy</th>
<th>No pre-stroke cognitive impairment (n=106)</th>
<th>Pre-stroke cognitive impairment (n=33)</th>
<th>Difference in means (95% confidence interval)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total PT and OT combined</td>
<td>55.84 (35.3), 50</td>
<td>39.81 (25.5), 37</td>
<td>16.03 (2.89, 29.16)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Unadjusted</td>
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<td></td>
<td></td>
<td></td>
<td>14.1 (0.4, 27.8)</td>
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<td></td>
<td></td>
<td></td>
<td>Adjusted*</td>
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<tr>
<td>Physio</td>
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</tr>
<tr>
<td>Patient facing</td>
<td>24.3 (16.2), 21.5</td>
<td>14.6 (10), 16</td>
<td>9.68 (3.7, 15)</td>
</tr>
<tr>
<td>Non-patient facing</td>
<td>3.59 (3.3), 3</td>
<td>4.03 (4.4), 2</td>
<td>-0.4 (-1.8, 0.9)</td>
</tr>
<tr>
<td>Total PT</td>
<td>27.91 (18.5), 24.5</td>
<td>18.66 (12.3), 18</td>
<td>9.24 (3.67, 14.82)</td>
</tr>
<tr>
<td>OT</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Patient facing</td>
<td>22.8 (15.3) 20</td>
<td>13.6 (10.7), 10</td>
<td>9.21 (3.5, 14.9)</td>
</tr>
<tr>
<td>Non-patient facing</td>
<td>5.08 (4.3), 4</td>
<td>7.51 (5.8), 5</td>
<td>-2.4 (-4.3, -0.6)</td>
</tr>
<tr>
<td>Total OT</td>
<td>27.93 (18), 26.5</td>
<td>21.15 (14.9), 19</td>
<td>6.78 (-0.74, 13.63)</td>
</tr>
</tbody>
</table>
Results

Participants with pre-stroke cognitive impairment/dementia:

• **No difference** in amount of single discipline OT, psychology or SLT

• **Not** discharged earlier from inpatient rehabilitation

• **Were less likely** to be referred to ESD (p < 0.008)

• **No difference** in new admissions to residential care
Discussion

• Sizeable group of stroke rehab patients (24%) with pre-existing cognitive impairment may not receive equitable care.

• Patients were already in rehab – many are excluded

• Is difference in rehabilitation a bad thing? Or is it appropriate?
Discussion

- 42% of participants recruited using consultee process – often excluded group

- 17% within stroke rehab with undiagnosed pre-stroke cognitive impairments - first study to describe them. Would formal assessment identify different numbers?

- Lack of data on outcome – area for future research
Summary

• People with pre-existing cognitive impairments appear to receive different rehabilitation processes than those without

• Particularly physio and referral to ESD

• Demonstrated it is possible to recruit people with pre-existing dementia to stroke research – often excluded

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