Background

- Majority of stroke survivors report impaired upper extremity (UE) function, especially in the hand.
- 3 months post-stroke only 20% have normal arm function.
- Individuals with moderate to severe arm impairment often lack hand function and do not use the affected arm in function.
- No study has examined desired recovery of upper extremity hand function, barriers to that recovery and important factors in using a device for hand function.

Research Objectives

- Examine factors that influence how patients with stroke view their arm function.
- Identify goals for and barriers to recovery of UE function.
- Assess participant’s willingness to use a device for the recovery of UE function.

Methods

- 64-item survey developed including items from the Arm and Hand Function Subscales of the Stroke Impact Scale (SIS), focused on: life before and after stroke, arm and hand function following stroke, goals of recovery of arm/hand function, barriers to recovery of arm/hand function, and willingness to use a device to improve arm/hand function.

Methods (Continue)

- Face validity of survey established through interactions with therapists and consumers in both English and Spanish.
- Items were scored with a 1-5 Likert scale and 0-100 scale (recovery items).
- Administered by phone or email to participants who have had a stroke.

Subject Recruitment & Enrollment

94 individuals with stroke participated the survey.

<table>
<thead>
<tr>
<th>Sex (Male, Female)</th>
<th>55, 37</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age (mean range)</td>
<td>61.4, 20-91</td>
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<tr>
<td>Years Post Stroke (mean range)</td>
<td>9.1, 1-31</td>
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</tbody>
</table>

Results

Fig. 1. Living situation before and after stroke.

Fig. 2. Perceived & desired recovery of hand function; and current and desired SIS subscores for hand function. ****p<0.0001

Fig. 3. Individuals with stroke perceived barriers. ****p<0.0001

Fig. 4. Post-stroke commonly used devices & Important factors for using devices after stroke.

Conclusions

- Statistically significant gap between perceived and desired level of hand function.
- Main barriers for recovery of hand function were weakness, spasticity, and being able to use the arm and hand during daily activities.
- Able to gain arm/hand function is the most important factor for individuals with stroke to use an assistive device.

Clinical Implications

- There is a divide between patient expectations and clinical outcomes. Clinicians must realize the importance of recovery and functional improvements in the hand together with the whole upper limb. It is important because patients perceive functional impairments, rather than social factors, as their largest barriers to recovery.

Acknowledgements

We would like to acknowledge the individuals post-stroke and clinicians who assisted with validation of the survey and the participants for taking the time to complete the survey.