The Living with Dysarthria programme for post-stroke dysarthria

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Dysarthria following stroke

- **Stroke is a notable cause of dysarthria:** 22% of a large SLP dysarthria case audit series (Duffy, 2005).

- **High incidence of dysarthria in stroke:** 53% (general series) - 25% (lacunar infarcts) in acute first stroke populations (Mackenzie, 2011)
Dysarthria following stroke

- Many speech features, especially imprecise articulation, slow rate, monotony, harsh voice (Mackenzie, 2011)

- Frequently persistent

- Negative effect on stroke outcome (Tilling et al., 2001)

- Affects social participation and sense of identity (Brady et al., 2011)
Evidence base for SLP intervention in dysarthria from stroke

- No published randomised controlled trials
- Some single case and small group series
- Stroke cases sometimes mixed with other aetiologies, e.g. traumatic brain injury
- Mainly behavioural, impairment approaches to intervention
- No published reports of group management
Intervention groups

- natural interaction with a range of communication partners
- discussion of experiences
- problem solving
- peer support
Living with dysarthria

A group intervention programme for stroke patients and main communication partners (family/carers), addressing the impact of dysarthria
Living with Dysarthria programme

- **Education** about stroke and dysarthria
- **Peer and professional support**
- **Communication practice** using strategies to maximise communication
- People with chronic post-stroke dysarthria
- Family members
- 8 group sessions of 2 hours once a week in community setting
- Led by 2 SLPs
Recruited participants: Programme piloted on two occasions

12 people with dysarthria

7 M; 5 F

7 family members

spouses (4), ex-spouse (1), daughter (1), sister-in-law (1)

9 completed programme

4 completed programme

time since stroke 3-72 months (mean 34.4, SD 26.7)
age 50-93 (mean 68.8, SD 12.9.)
Results

Participant feedback

Outcome measurement
Participant feedback

- Anonymous descriptive adjectives
- Anonymous questionnaires
- Focus group discussions
Which three words best describe your overall impressions of the group programme?

- Boring:
- Difficult:
- Enjoyable: 10
- Interesting: 13
- Irrelevant:
- OK:
- Stimulating: 9
- Useful: 6

Data from 13 participants, including 4 family: anon
## Anonymous evaluations (n = 13)

<table>
<thead>
<tr>
<th></th>
<th>Strongly Disagree</th>
<th>Disagree</th>
<th>Neither Agree nor disagree</th>
<th>Agree</th>
<th>Strongly Agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>The sessions lived up to my expectations</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>8</td>
<td>4</td>
</tr>
<tr>
<td>The content was relevant to living with dysarthria</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>4</td>
<td>8</td>
</tr>
<tr>
<td>I’ll be able to use what I learned in the sessions (1 NR)</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>4</td>
<td>8</td>
</tr>
<tr>
<td>The sessions were a good way for me to learn more about living with dysarthria (1 NR)</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>3</td>
<td>9</td>
</tr>
</tbody>
</table>
Focus group analysis (Nvivo)

Benefits of Group Programme

- Confidence
- Enjoyment
- Continuation of Therapy
- Insight
- Peer Support
- Professional Support
- Relative Support
- Speech Improvement
Outcome measures: People with dysarthria

Before (A1) and after (A2) participation in the *Living with Dysarthria* programme

Quality of communication life: Quality of Communication Life Scale (QCLS, Paul *et al.* 2004)

Speech intelligibility: Speech Intelligibility Test (SIT, Yorkston *et al.* 1996).

Outcome measures: People with dysarthria and family members

Before (A1) and after (A2) participation in the *Living with Dysarthria* programme

Communication effectiveness:
Communicative Effectiveness Survey (CES, Yorkston *et al.* 1999: 8 item version (Donovan *et al.* 2007)).

General wellbeing: Short General Health Questionnaire (GHQ-12, Goldberg and Williams 1988)

Stroke and speech knowledge: adapted version of Stroke Knowledge Test (SKT, Sullivan and Dunton 2004)
## Outcome measures

<table>
<thead>
<tr>
<th></th>
<th>N</th>
<th>A1 median (range)</th>
<th>A2 median (range)</th>
<th>Z; p value; d</th>
</tr>
</thead>
<tbody>
<tr>
<td>QCLS (80)</td>
<td>9</td>
<td>67.0 (50.5 – 78.5)</td>
<td>68.33 (9.43)</td>
<td>-0.71; p = 0.478; d = 0.17</td>
</tr>
<tr>
<td>SIT (100%)</td>
<td>9</td>
<td>92.4 (54.3 – 99.4)</td>
<td>94.55 (61.06 – 99.39)</td>
<td>-1.96; p = 0.05*; d = 0.46</td>
</tr>
<tr>
<td>CEM (7)</td>
<td>9</td>
<td>5.89 (2.11 – 6.89)</td>
<td>6.11 (2.22 -6.89)</td>
<td>-0.98; p = 0.33; d = 0.23</td>
</tr>
<tr>
<td>SSKT (20)</td>
<td>13</td>
<td>12.0 (5.0 – 18.0)</td>
<td>15.0 (5.0 – 19.0)</td>
<td>-2.00; p = 0.05*; d = 0.39</td>
</tr>
<tr>
<td>CES (32)</td>
<td>13</td>
<td>21.0 (15.0 – 28.0)</td>
<td>23.0 (16.0 – 28.0)</td>
<td>-1.07; p = 0.28; d = 0.21</td>
</tr>
<tr>
<td>GHQ-12</td>
<td>13</td>
<td>12.0 (7.0 – 18.0)</td>
<td>11.0 (4.0 – 14.0)</td>
<td>-1.48; p = 0.14; d = 0.30</td>
</tr>
</tbody>
</table>
Before and after results

Group median scores increased in all measures

Effect sizes ranged from just below small to just below medium

Despite small group size:
changes were statistically significant for:

- Speech intelligibility
- Knowledge of stroke and dysarthria

trend to significant change for:

- General wellbeing
General conclusions

• *Living with Dysarthria* programme very well received and rated as relevant and beneficial by participants

• Despite small numbers, there are indications of group level positive change in speech intelligibility and knowledge of stroke and dysarthria and a trend apparent in general wellbeing

• Quality of communication life measure was unchanged, but QCLS was not designed specifically for this population. Ceiling effect evident. More appropriate dysarthria specific measures are in development

• Further use of this approach is justified.

