



# The Living with Dysarthria programme for post-stroke dysarthria

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*The* **STROKE** *Association*

The logo for The Stroke Association. The word "STROKE" is written in a bold, serif font. The letter "O" is replaced by a stylized profile of a human head facing right. Inside the head, there are several concentric circles, resembling a target or a ripple effect. The word "The" is written in a smaller, italicized serif font above "STROKE", and "Association" is written in a larger, italicized serif font below "STROKE". There are thick black horizontal bars above and below the "STROKE" text, and a thin horizontal line below "Association".

# 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

time since stroke 3-72  
months (mean 34.4, SD  
26.7)

age 50-93 (mean 68.8, SD  
12.9.)

**9** completed programme

**7** family members

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

**4** completed programme



# 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**

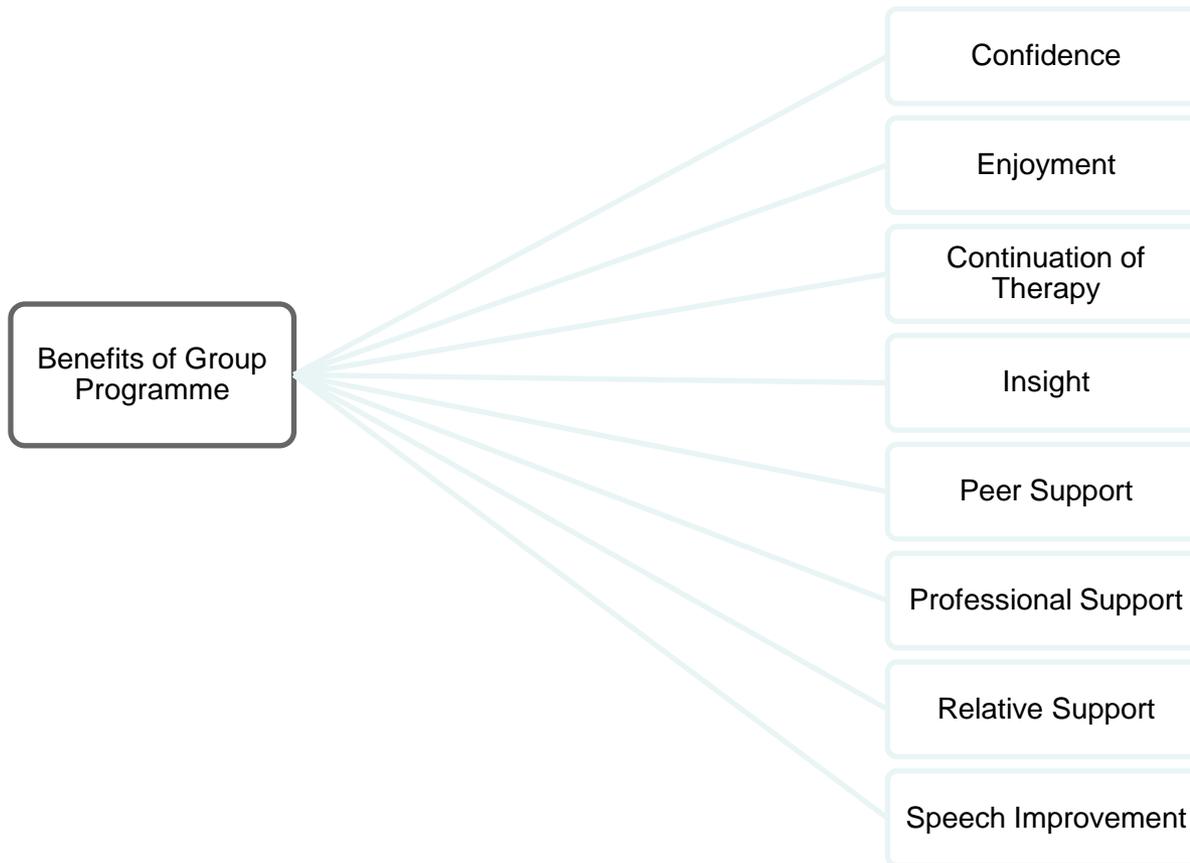
**Data from 13 participants,  
including 4 family: anon**

# Anonymous evaluations

(n =13)

	Strongly Disagree	Disagree	Neither Agree nor disagree	Agree	Strongly Agree
The sessions lived up to my expectations	0	0	1	8	4
The content was relevant to living with dysarthria	0	0	1	4	8
I'll be able to use what I learned in the sessions (1 NR)	0	0	0	4	8
The sessions were a good way for me to learn more about living with dysarthria (1 NR)	0	0	0	3	9

# Focus group analysis (Nvivo)





# 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).

Communication effectiveness:  
independently assessed:  
Communication Effectiveness  
Measure (CEM, Mackenzie  
and Lowit 2007).



# 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

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

# 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.



# References

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