Therapeutic effect of an intensive comprehensive aphasia program: Aphasia LIFT

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Background

- Intensive approaches in aphasia rehabilitation

- Mixed evidence across ICF domains (Cherney, Patterson & Raymer, 2011)

- Studies that combine individual and group therapy
  - Language Impairment (Code et al., 2010; Mackenzie et al., 1999)
  - Activity/Participation (Code et al., 2010; Mackenzie et al., 1999; Brindley et al., 1989)

- Demand for intensive comprehensive approaches is increasing (Rose, Cherney & Worrall, in prep)
**Intensive Comprehensive Aphasia Program (ICAP)**

<table>
<thead>
<tr>
<th>Service Delivery</th>
<th>Common Core Values</th>
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<tbody>
<tr>
<td>• Minimum of 3 hrs/day, 5 days/wk, 2 wks</td>
<td>• Aim to enhance life participation</td>
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<td>• Completed by a cohort</td>
<td>• Compassion, respect, positive outlook</td>
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<tr>
<td>• Targets impairment and activity/participation</td>
<td>• Involvement of family/friends</td>
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<tr>
<td>• Individual therapy</td>
<td>• Individualized treatment goals</td>
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<tr>
<td>• Group therapy</td>
<td>• Evidence-based interventions</td>
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<tr>
<td>• Patient/family education</td>
<td>• Neuroplasticity principles</td>
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(Rose, Cherney & Worrall, in prep)
Aphasia LIFT

**Partnership with family and friends**
- Collaborative goal-setting
- Training, support, and education

**Neuroplasticity-based individual treatment**
- Intensity Matters
- Salience Matters
- Repetition Matters

**A positive approach**
- Supportive, aphasia friendly environment
- Challenge task
**Design**

- **AIM:** To determine the therapeutic effect of Aphasia LIFT on language impairment, functional communication, and communication-related quality of life.

- **Pre-post group design**

- **Three LIFT cohorts combined to establish a single data set**

<table>
<thead>
<tr>
<th>LIFT 1</th>
<th>LIFT 3</th>
<th>LIFT 2</th>
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<tbody>
<tr>
<td>20 hrs/wk</td>
<td>17 hrs/wk</td>
<td>25 hrs/wk</td>
</tr>
<tr>
<td>2 wks</td>
<td>3 wks</td>
<td>4 wks</td>
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Participants

Eligibility Criteria

- At least 6 months post onset LCVA with aphasia
- No additional neurological disorders
- No uncorrected sensory deficits
- English speaking

<p>| | |</p>
<table>
<thead>
<tr>
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<tbody>
<tr>
<td>Gender</td>
<td>13M, 4F</td>
</tr>
<tr>
<td>Age</td>
<td>18-79 years</td>
</tr>
<tr>
<td>MPO</td>
<td>8-66 months</td>
</tr>
<tr>
<td>CAT Overall</td>
<td>39-62</td>
</tr>
<tr>
<td>+ Family member participation</td>
<td>10</td>
</tr>
</tbody>
</table>
Outcome Measures

Language Impairment
- BNT
- Discourse

Functional Communication
- CETI

Communication-related QOL
- ALA

Assessment at pre-treatment, post-treatment and 4-8 weeks follow-up
Treatment

- **Impairment**
  - skill-based: word retrieval, AOS

- **Functional**
  - context-based: conversation, role-playing, supported communication

- **Challenge Task**
  - aphasia education, information exchange, living with aphasia, topic talk, “next steps”

- **Group**
  - word retrieval, conversational scripting

- **Computer**
• 95% program completion rate
• 97% hours completed
BNT

Mean (SD)
PRE   19.4 (17.0)
POST  22.6 (18.8)
F/U   22.1 (18.7)

Significance
POST  $p = .003$
F/U   $p = .007$

Effect Size
POST  .18
F/U   .15
% CIU

Mean (SD)
PRE  53.2 (11.7)
POST 55.3 (13.0)
F/U  53.8 (15.1)

Significance
POST  $p = .209$
F/U  $p = .722$
CIUs/min

Mean (SD)
PRE  37.7 (25.1)
POST 44.7 (24.6)
F/U  43.9 (34.0)

Significance
POST  $p = .015$
F/U  $p = .248$

Effect Size
POST  .28 (small)
CETI

Mean (SD)
PRE  4.19 (1.50)
POST  5.33 (1.66)
F/U  5.46 (1.70)

Significance
POST  \( p = .001 \)
F/U  \( p = .001 \)

Effect Size
POST  .72 (medium)
F/U  .79 (medium)
ALA

Mean (SD)
PRE 101.9 (16.8)
POST 109.8 (17.9)
F/U 115.7 (19.5)

Significance
POST  $p = .008$
F/U   $p = .003$

Effect Size
POST  .45 (small)
F/U   .72 (medium)
Conclusion

• Completion rate and adherence was good

• Impairment level
  • Great deal of individual variability (Code et al., 2010; Brindley et al., 1989; Mackenzie, 1991)
  • Small but significant change in naming
    • Severity was an important factor
  • Small but significant change in discourse efficiency
Conclusion

- Functional communication
  - Positive and lasting change
  - Improvements regardless of aphasia severity
  - Consistent with other programs
  - What aspects of LIFT contributed to perceived changes in functional communication?
Conclusion

- Communication-related QOL
  - Immediate and lasting impact
  - Improvements regardless of aphasia severity
  - Some individual variability in self-ratings
  - Heightened awareness of communication disability
  - Expectations for improvement
  - “Post-course depression” (Brindley et al., 1989)
Aphasia LIFT...

- Yielded positive outcomes across language impairment, functional communication and communication-related QOL

- Individual response to treatment was variable, but all participants improved in at least one domain

- A promising treatment approach that requires further research
We extend our thanks to the clinicians, student volunteers, individuals with aphasia and family members who have participated in the Aphasia LIFT program.