Changes to communication related quality of life following online aphasia group therapy

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Introduction – Aphasia group therapy

Benefits of group therapy for aphasia

Practice of a variety of speech acts  
Support for living with aphasia  
Learn and practice a range of communication strategies  
Opportunity to participate in natural conversation

PWA need long term access to aphasia groups

Friendships with others  
Problem solving with others
Barriers to accessing aphasia groups

**Transport difficulties**
- Reliability
- Organisation
- Cost
- Distance
- Time
- Fatigue
- Stress

**Health co-morbidities**
- Cognition
- Mobility
- Hemi-paresis

**Geographical isolation**
- Distance
- Lack of community transport
- Limited services available
- Limited SLP’s

Barriers to providing aphasia groups

**Resource constraints**
- Rising healthcare costs
- Funding difficulties
- Inadequate staffing
- Lack of group materials

**Clinician factors**
- Confidence
- Skills
- Balancing linguistic vs psychosocial aims

**Group structure factors**
- Availability of clients with shared characteristics
- Culturally and Linguistically Diverse
- Tailoring groups to needs of PWA
Telerehabilitation – a potential solution

Delivery of medical rehabilitation services at a distance using electronic information and communication technologies (Rosen, 99)

- Reduced travel
- Saves money
- Saves time
- Improved access

Telerehabilitation – a potential solution

Delivery of medical rehabilitation services at a distance using electronic information and communication technologies (Rosen, 99)

- Wide geographical area
- Improved timeliness
- Increased intensity
Evidence for telerehabilitation

- Promising results for synchronous (real-time) and asynchronous (remotely-monitored) aphasia management
- Current evidence primarily in the assessment of aphasia
- Intervention studies typically asynchronous, limited by small sample sizes or combine treatment approaches
- No studies investigating only aphasia group therapy

Aims

- Investigate the changes to communication related quality of life for people with aphasia following online aphasia group therapy
- Describe participant satisfaction with online aphasia group therapy
Methods - Participants

Inclusion criteria
• over 18 years of age
• at least 12 months post-stroke
• adequate hearing and vision to operate computer equipment
• English speaking

Exclusionary criteria
• Concomitant neurological or cognitive disorder
• Technology provided by research team when needed
• Support from communication partner encouraged
• No minimum requirements for communication

Methods - Participants

• n = 18
• 10 females, 8 males
• 7 communication partners supported participants in using technology
• Age range 21 - 74 (mean =56.78, SD = 13.91)
• Months post onset (MPO) range 13 – 223 (mean = 66.61, SD = 61.61)
• Pre-assessment Mean Modality T-Score on Comprehensive Aphasia Test range 41.38 – 64.75 (mean = 55.18, SD = 6.99, aphasia cut-off 62.8)
Methods - Participants

- 11 major city
- 5 inner regional areas
- 1 outer regional area
- 1 travelled outer regional Australia extensively during study

Methods - Telerehabilitation

1. Go to website
2. Enter name (or any character)
3. Click Enter room
Methods - Telerehabilitation

4. Turn on microphone
5. Turn on web camera

Methods – Assessment

Primary outcome measure
• Assessment for Living with Aphasia (ALA) pre- and immediately post-intervention

Secondary measures
• Aphasia friendly satisfaction questionnaire post therapy – 14 questions, 5 point Likert scale
• Comprehensive Aphasia Test (pre- post)
• Quality Communication Life Scale (pre- post)
• Communicative Activities Checklist (pre- post)
• Qualitative interviews with participants and communication partners (post)
Methods – Online administration

**Methods – TeleGAIN**

Telerehabilitation Group Aphasia Intervention and Networking

- Twelve, 1.5 hour therapy sessions
- Three to four people with aphasia in each group
- Specifically developed aphasia group intervention – TeleGAIN
- Multi-purpose group – across ICF domains
- Goals of intervention
  1. Create opportunities for communicative success
  2. Share personal life history
  3. Provide support for living with aphasia through networking with others
Methods - **TeleGAIN**

Telerehabilitation Group Aphasia Intervention and Networking

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My Journey

I had a stroke in 1999 that negatively affected my ability to talk. My speech problems are called aphasia.

It is a motor speech disorder caused by brain damage. I also have apraxia.
Methods - **TeleGAIN**

Telerehabilitation Group Aphasia Intervention and Networking

Communication supports key to
- Allowing shared participation
- Sharing personal narratives
- Promote engagement

Methods – Data analysis

Assessment for Living with Aphasia
- Paired samples t-test on five domains and total score

Participant satisfaction questionnaire
- Analysed descriptively
## Results – ALA

<table>
<thead>
<tr>
<th>ALA Domain</th>
<th>Pre-treatment</th>
<th>Post-treatment</th>
<th>Mean Difference</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Mean (SD)</td>
<td>Range</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total Score</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>101.89 (17.18)</td>
<td>74.5 – 137.0</td>
<td>113.72 (17.31)</td>
<td>11.83 (10.38)</td>
</tr>
<tr>
<td>Aphasia</td>
<td>10.28 (2.47)</td>
<td>5.5 – 15.0</td>
<td>12.28 (2.09)</td>
<td>2 (1.89)</td>
</tr>
<tr>
<td>Participation</td>
<td>45.64 (7.25)</td>
<td>29.5 – 63.0</td>
<td>50.92 (7.99)</td>
<td>5.28 (6.61)</td>
</tr>
<tr>
<td>Environment</td>
<td>10.19 (3.05)</td>
<td>5.5 – 16.0</td>
<td>11.83 (2.74)</td>
<td>1.64 (1.57)</td>
</tr>
<tr>
<td>Personal</td>
<td>32.86 (7.55)</td>
<td>19.0 – 44.0</td>
<td>35.89 (5.01)</td>
<td>3.03 (5.51)</td>
</tr>
<tr>
<td>Life with aphasia</td>
<td>2.92 (0.79)</td>
<td>2.0 – 4.0</td>
<td>3.28 (0.77)</td>
<td>0.36 (0.72)</td>
</tr>
</tbody>
</table>

## Results – Participant Satisfaction

<table>
<thead>
<tr>
<th>Question</th>
<th>Mean (SD)</th>
<th>Number of participants</th>
</tr>
</thead>
<tbody>
<tr>
<td>Communication improved</td>
<td>4.50 (0.99)</td>
<td>4.50 (0.62)</td>
</tr>
<tr>
<td>Gained new skills</td>
<td>4.50 (0.62)</td>
<td>4.89 (0.32)</td>
</tr>
<tr>
<td>Easily see SLP</td>
<td>4.89 (0.32)</td>
<td>5.00 (0)</td>
</tr>
<tr>
<td>Easily hear SLP</td>
<td>4.89 (0.32)</td>
<td>4.61 (0.61)</td>
</tr>
<tr>
<td>Felt comfortable</td>
<td>4.61 (0.61)</td>
<td>4.67 (0.69)</td>
</tr>
<tr>
<td>Therapy at home is easier</td>
<td>4.67 (0.69)</td>
<td>4.39 (1.09)</td>
</tr>
<tr>
<td>Therapy online is good</td>
<td>4.39 (1.09)</td>
<td>4.17 (1.20)</td>
</tr>
<tr>
<td>Saved travel time</td>
<td>4.17 (1.20)</td>
<td>4.67 (0.77)</td>
</tr>
<tr>
<td>Saved money</td>
<td>4.67 (0.77)</td>
<td>4.17 (0.86)</td>
</tr>
<tr>
<td>Would have TeleGAIN again</td>
<td>4.17 (0.86)</td>
<td>4.50 (0.99)</td>
</tr>
<tr>
<td>TeleGAIN ran smoothly</td>
<td>4.50 (0.99)</td>
<td>4.83 (0.38)</td>
</tr>
<tr>
<td>TeleGAIN met expectations</td>
<td>4.83 (0.38)</td>
<td>4.72 (0.57)</td>
</tr>
<tr>
<td>Would recommend to others</td>
<td>4.72 (0.57)</td>
<td></td>
</tr>
</tbody>
</table>
Discussion

• Online aphasia group therapy results in positive changes in communication related quality of life

• Consistent with face-to-face aphasia group therapy studies targeting many areas of functioning

• Most notable changes in Participation domain

• Group therapy online allowed for practice of a variety of different speech and discourse types

Discussion

• High satisfaction with TeleGAIN

• All participants would recommend to others

• Participants would have TeleGAIN again

• Satisfaction is an indicator for efficacy and motivation for rehabilitation

• Telerehabilitation can provide a motivating and engaging environment to promote change in functioning
Discussion

• Frequency and experience of technology breakdowns impacted on satisfaction
• Frequent loss of audio or video in some groups
• Disruptive if research team had to call the participant
• Significant audio delay impacted conversation exchange
• Future research should ensure the quality of the connection does not impact on the group

Discussion

• Agreed with benefits of telerehabilitation
• Participants were geographically isolated, experienced transport issues or co-morbidities or had limited services in their area
• Telerehabilitation provided access to services
• Aphasia severity, time post onset, age and availability of communication support at home should not exclude people from accessing online therapy
Conclusion

• Delivery of aphasia group therapy via telerehabilitation is feasible and results in improvements in communication related quality of life
• Participants are highly satisfied with online aphasia group therapy
• Offers an alternative to face-to-face therapy for people with aphasia and improve access to services
• Future research
  • Address technology breakdowns
  • Larger efficacy trial
  • Implementation trial
  • Cost-effectiveness

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