Communicative Strategies: Usage and Factors Among People With Severe Aphasia

Jordyn Ludemann, B.S., Ellie Howton, B.S., & H. Sheen Chiu Ph.D., CCC-SLP
Minnesota State University, Mankato

Abstract

The purpose of this study was to investigate the use of compensatory communicative strategies before and after a stroke in people with severe aphasia (PSWA) and the factors that affect the use of these strategies. Data analysis was conducted from the Assessment for Living with Aphasia-Revised (AL-A) and the Western Aphasia Battery-Revised (WAB-R). The results indicated that PSWA report both increasing and decreasing amounts of compensatory strategies used, as well as the type of strategies used from pre-stroke to post-stroke. The results indicated that the language abilities of people with aphasia are highly variable, although there may be a relationship between positive and negative life participation scores and reporting use of communicative strategies. In conclusion, language and life participation scores in people with severe aphasia vary greatly from person to person.

Research Questions

- Question 1: How do people with severe aphasia report use of communicative strategies differently after having a stroke?
- Question 2: Does the ability to use communicative strategies relate to language severity or overall life participation in people with severe aphasia?
- Question 3: Do the most reported strategies among participants pre-stroke differ from those reported post-stroke?
- Question 4: Are there any factors that influence the use of communicative strategies?

Methods

- Assessment for Living with Aphasia-Revised: A patient-reported measure designed to assess an individual’s aphasia, participation, environment, personal, and overall quality of life.
- Western Aphasia Battery-Revised: A patient-reported measure designed to assess an individual’s aphasia, participation, environment, personal, and overall quality of life.

Results

- The most reported strategies among participants pre-stroke: writing (100%), pointing (66%), and use of pictures (66%).
- The most reported strategies among participants post-stroke: writing (56.66%), use of pictures (56.66%), pointing (50%), gestures (50%), and resources (50%).
- Life participation scores in people with severe aphasia vary greatly from person to person.

Discussion

- Strategy use pre-stroke: 100% of participants reported use of communicative strategies.
- Strategy use post-stroke: 83% of participants reported use of communicative strategies.
- Reported use of slowing down and staying relaxed during communicative situations remained the same from pre- and post-stroke, while use of written, auditory resources, and yes/no questions decreased.

Conclusions

- Every person with severe aphasia is different in terms of skills and abilities, so it is important to implement patient-based therapy with an emphasis on the individual.
- Strategies change post-stroke in people with severe aphasia in terms of type and number of strategies.
- Quality of language is affected by the number of other factors in people who have severe aphasia.
- Strategy use seen in PSWA who have deficits in spontaneous speech and naming abilities may indicate that communicative strategies are good compensatory strategies for PSWA who have these deficits.
- Limitations: We have a small sample size, so this makes our results less generalizable.

Future Direction

- We are excited to be doing research on people with severe aphasia, because there is not very much representation.
- The most challenging aspect has been our small sample of the population, because it has limited the generalization of our results and our methods of data analysis.
- We have additional research for ASHA, looking at care partner perspective of strategy use and cognition, and if cognition plays a role in strategy use for PSWA.

Acknowledgments

This research was supported by the College of Allied Health and Nursing Research Support and the Minnesota State University Faculty Research Grant at Minnesota State University, Mankato. The authors would also like to thank the Center for Communication Sciences and Disorders at MSU-Mankato, Carly Caskey, Sarah Helm, Heather Vangund, Sheila Eichmann, Jack Thomas, Mary Strom, Krista Peterson, Kristina Barton, Mandie Pulvermacher, Courtney Hirn, Hannah Seurer, Nikki Hansen, Cassie Ross, Jade Maukshetti, Kristina Hamson, Michele Howard and Christine Kim for participant recruitment. Special thanks to all of our participants.

Literature Review

- Aphasia severity and how people with severe aphasia rate their quality of life are not related. There are a variety of other factors that are not aphasia severity that impact quality of life (Williamson, Richman, Redman, 2011).
- Goal of using strategies is enhancing life participation (Williamson, Richman, Redman, 2011).
- Social communication, life participation, and communication strategies were very important to people with aphasia (Johansson, Carlsson, & Sonnander, 2011).
- Other than verbal strategies, many people with aphasia use a variety of strategies like the total communication model (Johansson et al., 2011).
- Strategies included pictures, drawing, gestures, asking communication partner to talk slowly, and communication devices (Johansson et al., 2011).
- Using modalities (communication strategies) are useful for communication breakdowns for people with aphasia both long-term and short-term (Nicholas, Simette, & Helm-Estabrooks, 2011).

Research Questions

- Question 1: How do people with severe aphasia report use of communicative strategies differently after having a stroke?
- Question 2: Does the ability to use communicative strategies relate to language severity or overall life participation in people with severe aphasia?
- Question 3: Do the most reported strategies among participants pre-stroke differ from those reported post-stroke?
- Question 4: Are there any factors that influence the use of communicative strategies?

Methods

- Assessment for Living with Aphasia-Revised: A patient-reported measure designed to assess an individual’s aphasia, participation, environment, personal, and overall quality of life.
  - Example: How would you rate your memory?
    - Five-point aphasia friendly rating scale
    - 0 = memory/thumbs down
    - 4 = memory/thumbs up
  - Assessment for Living with Aphasia: Pre-stroke version: A patient-reported measure designed to assess an individual’s aphasia, participation, environment, personal, and overall quality of life.
  - Example: How would you rate your thinking before the stroke?
  - The same five-point aphasia friendly rating scale is used.

- Western Aphasia Battery-Revised: Assesses all aspects of language and provides diagnosis information.
  - Aphasia Quotient (AQ): reflects aphasia severity. This score is calculated from the following subtests:
    - Linguistic: content, fluency, auditory comprehension, repetition & naming, reading & writing and nonsensical subtests.

References

Communicative Strategies: Usage and Factors Among People With Severe Aphasia

Jordyn Ludemann, B.S., Ellie Howton, B.S., & H. Sheen Chiou Ph.D., CCC-SLP
Minnesota State University, Mankato
Abstract

The purpose of this study was to investigate the use of compensatory communicative strategies before and after a stroke in people with severe aphasia (PWSA) and the factors that affect the use of these strategies. Data analysis was conducted from the Assessment for Living with Aphasia-Revised, and the Western Aphasia Battery-Revised. The results indicated that PWSA report both increasing and decreasing amounts of communicative strategies used, as well as the type of strategies used from pre-stroke to post-stroke. The results indicated that the language abilities of people with aphasia are highly variable, although there may be a relationship between positive and negative life participation scores and reporting use of communicative strategies. In conclusion, language and life participation scores in people with severe aphasia vary greatly from person to person.
• Aphasia severity and how people with severe aphasia rate their quality of life are not related. There are a variety of other factors that are not aphasia severity that impact quality of life (Williamson, Richman, Redman, 2011).

• Goal of using strategies is enhancing life participation (Williamson, Richman, Redman, 2011).

• Social communication, life participation, and communication strategies were very important to people with aphasia (Johansson, Carlsson, & Sonnander, 2011).

• Other than verbal strategies, many people with aphasia use a variety of strategies like the total communication model (Johansson et al., 2011).

• Strategies included pictures, drawing, gestures, asking communication partner to talk slowly, and communication devices (Johansson et al., 2011).

• Using modalities (communication strategies) are useful for communication breakdowns for people with aphasia both long-term and short-term (Nicholas, Sinotte, & Helm-Estabrooks, 2011).
Question 1: How do people with severe aphasia report use of communicative strategies differently after having a stroke?

Question 2: Does the ability to use communicative strategies relate to language severity or overall life participation in people with severe aphasia?
Methods

• Assessment for Living with Aphasia-R: A patient-reported measure designed to assess an individual’s aphasia, participation, environment, personal, and overall quality of life.

• Example: How would you rate your talking?
• Five-point aphasia friendly rating scale
• 0 = frowning/thumbs down
• 4 = smiling/thumbs up

• Assessment for Living with Aphasia: Pre-stroke version: A patient-reported measure designed to assess an individual’s reflected life participation before a stroke.

• Example: How would you rate your talking before the stroke?
• The same five-point aphasia friendly rating scale is used

• Western Aphasia Battery-R: Assesses all aspects of language and provides diagnosis information.

• Aphasia Quotient (AQ): reflects aphasia severity. This score is calculated from the following subtests:
• Linguistic: content, fluency, auditory comprehension, repetition & naming, reading & writing and nonlinguistic subtests.
<table>
<thead>
<tr>
<th>PSWA</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>Mean</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age (y)</td>
<td>70</td>
<td>68</td>
<td>76</td>
<td>63</td>
<td>63</td>
<td>74</td>
<td>69</td>
<td>5.44</td>
</tr>
<tr>
<td>Gender</td>
<td>Male</td>
<td>Female</td>
<td>Male</td>
<td>Male</td>
<td>Female</td>
<td>Male</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Edu (y)</td>
<td>14</td>
<td>12</td>
<td>16</td>
<td>12</td>
<td>16</td>
<td>13</td>
<td>13.83</td>
<td>1.83</td>
</tr>
<tr>
<td>Type of Stroke</td>
<td>Hemorrhagic</td>
<td>Hemorrhagic</td>
<td>Ischemic</td>
<td>Atrofibration</td>
<td>Ischemic</td>
<td>Ischemic</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Type of Aphasia</td>
<td>Broca’s</td>
<td>Wernicke’s</td>
<td>Broca’s</td>
<td>Global</td>
<td>Broca’s</td>
<td>Broca’s</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Aphasia Quotient</td>
<td>20.3</td>
<td>40.8</td>
<td>24.3</td>
<td>3.1</td>
<td>43.6</td>
<td>20.6</td>
<td>25.45</td>
<td>14.94</td>
</tr>
<tr>
<td>Severity</td>
<td>Very Severe</td>
<td>Severe</td>
<td>Very Severe</td>
<td>Very Severe</td>
<td>Severe</td>
<td>Very Severe</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Martial Status</td>
<td>Widowed</td>
<td>Married</td>
<td>Married</td>
<td>Married</td>
<td>Married</td>
<td>Married</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Demographics**
Question 1:

The most reported strategies among participants pre-stroke: writing (100%), pointing (66%), and use of pictures (66%).

The most reported strategies among participants post-stroke: writing (66.66%), use of pictures (66.66%), pointing (50%), gestures (50%), and resources (50%).
Results
Results

Percent Strategies Used: Post-Stroke

Percent Strategies Used: Pre-Stroke
Question 2:

5/6 (83%) of participants with ALA scores above 50% (mostly positive life feelings) reported use of 2-6 communicative strategies.

1/6 (16%) of participants with ALA scores below 50% (mostly negative life feelings) reported use of 0 communicative strategies.

5/6 (83%) have naming skills and spontaneous speech abilities that are below the median scores, and they report using communicative strategies over 50% of the time.
Results
Discussion

• Question 1
• Strategy use pre-stroke: 100% of participants reported use of communicative strategies.
• Strategy use post-stroke: 83% of participants reported use of communicative strategies.
• Reported use of slowing down and staying relaxed during communicative situations remained the same from pre and post-stroke, while use of writing, resources, and yes/no questions decreased.
Discussion

• Question 2

• Language severity: Language severity in the areas of spontaneous speech and naming abilities as seen in participants (1, 3, 4, and 5) seems to be linked to increased communicative strategy use.

• Quality of life: Five out of six participants who reported mostly positive feelings about life participation and quality of life also reported using 2-6 communicative strategies. One participant had mostly negative feelings about life participation and quality of life, and did not report using any communicative strategies.
Conclusion

Every person with severe aphasia is different in terms of skills and abilities, so it is important to implement patient-based therapy with an emphasis on life participation.

Strategies change post-stroke in people with severe aphasia in terms of type and number of strategies.

Language does not affect strategy use as much as other factors in people who have severe aphasia.

Strategy use seen in PWSA who have deficits in spontaneous speech and naming abilities may indicate that communicative strategies are good compensatory strategies for PWSA who have these deficits.

Limitations: We have a small sample size, so this makes our results less generalizable.
We are excited to be doing research on people with severe aphasia, because there is not very much representation.

The most challenging aspect has been our small sample of the population, because it has limited the generalization of our results and our methods of data analysis.

We have additional research for ASHA, looking at care partner perspective of strategy use and cognition, and if cognition plays a role in strategy use for PWSA.
Acknowledgements

This research was supported by the College of Allied Health and Nursing Research Support and the Minnesota State University Faculty Research Grant at Minnesota State University, Mankato. The authors would also like to thank the Center for Communication Sciences and Disorders at MSU-Mankato, Carly Cauley, Sarah Helm, Heather Vangerud, Sheila Eichmann, Jack Thomas, Mary Strom, Krista Peterson, Kristina Barton, Minde Pulvermacher, Courtney Hinz, Hannah Seurer, Nikki Neisen, Cassie Ross, Jade Mussehl, Kristina Hanson, Michele Hoerdt and Christine Kim for participant recruitment. Special thanks to all of our participants.
References

