Is Lexical Retrieval Therapy an Effective Therapy Approach for Adults with Primary Progressive Aphasia?

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Abstract
This Critically Appraised Topic focused on current research for treating naming deficits in Primary Progressive Aphasia (PPA). Three lexical retrieval treatments (LRT) were reviewed:
- An Individualized Cuing Hierarchy
- Repetition and/or Reading in the Presence of a Picture (RRIPP)
- Lexical Retrieval Cascade Treatment

The published research reviewed reported that all three treatments are effective at producing gains immediately after therapy and in the maintenance phase (from one month to one year post therapy). Generalization measures were also considered and results were variable; generalization effects appear not to be guaranteed with this population. The research reviewed provides guidance for SLPs as we work with people with PPA.

Introduction
- The term primary progressive aphasia (PPA) is used to depict a neurological condition characterized by progressive degeneration of speech and language abilities with the initial absence of impairment to other cognitive domains.
- Current prevalence of adults with PPA in the U.S. is estimated to be 1.9/100,000. The major subtypes of PPA and their associated deficits include:
  - Logopenic (PPA-L) – word finding, phrase/sentence repetition, and phonological errors
  - Semantic (PPA-S) – anomia, poor single-word comprehension and semantic memory impairment
  - Agrammatic (PPA-G) – agrammatic speech, apraxia, and dysarthria
- Currently no medical or pharmaceutical interventions exist to improve language symptoms. Lexical retrieval treatment must be considered as a treatment option for this population.

Purpose & Clinical Questions
- The purpose was to research whether or not the selection of specific lexical retrieval therapy techniques along with special consideration of a client’s symptomatic profile can influence success of word-finding in speech therapy and beyond.
- The clinical questions: How well are current models of lexical retrieval therapy (LRT) supported in the research for use in skilled speech therapy for adults with different variants of PPA? What type of lexical retrieval therapy is most beneficial for each specific subtype of PPA?

Results

<table>
<thead>
<tr>
<th>Research Article</th>
<th>Type of LRT</th>
<th>Subtypes and # of Participants</th>
<th>Direct Intervention Gains</th>
<th>Maintenance/Generalization</th>
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</thead>
<tbody>
<tr>
<td>Beales et al. (2016)</td>
<td>Individualized Cuing Hierarchy</td>
<td>3 Adults PPA-S 1 Adult PPA-L</td>
<td>All subtypes showed significant gains in naming treated items post treatment</td>
<td>Maintenance: Up to 4 weeks post treatment for trained words.</td>
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<td>Croot et al. (2015)</td>
<td>Repetition and/or Reading in the Presence of a Picture - RRIPP</td>
<td>1 Adult PPA-G 1 Adult PPA-L</td>
<td>Both subjects experienced significant gains in naming treated items post treatment</td>
<td>Maintenance: Evident at 4 month follow up for adult with PPA-L, and at 1 month follow up for participant with PPA-G</td>
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<td>Henry et al. (2013)</td>
<td>Lexical Retrieval Cascade Treatment</td>
<td>1 Adult PPA-L 1 Adult PPA-S</td>
<td>Significant increase in naming of trained items from pre to post testing for both adults</td>
<td>Maintenance: Positive for treated words up to 6 months for adult with PPA-L &amp; up to 4 months for adult with PPA-S.</td>
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<td>Grasso, Shuster, &amp; Henry (2017)</td>
<td>Lexical Retrieval Cascade Treatment</td>
<td>1 Adult PPA-L 1 Adult MCI*</td>
<td>Large effect sizes for PPA-L participant for trained words</td>
<td>Maintenance: Reported maintenance effects for treated words at 3, 6 and 12 months post treatment</td>
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Conclusions
- Patients with PPA who receive lexical retrieval therapy will be able to increase their accuracy in naming words targeted in therapy immediately after intervention ends.
- These LRTs are all effective at producing immediate treatment effects for confrontation naming.
- The studies analyzed in Table 1 all reported positive maintenance effects for treated words. The length of maintenance effects ranged from one month post treatment (Beales et al., 2016) all the way up to one year post treatment for a participant with PPA-L (Grasso, Shuster & Henry, 2017).
- Maintenance of treatment skills is a reasonable possibility for adults with all subtypes of PPA.
- PPA-S subtype participants benefitted most from the individualized cueing hierarchy because they were the only subtype to show positive and valid generalization effects out of all LRTs analyzed. Perhaps capitalizing on preserved semantic relationships between words/ language promotes generalization success in PPA-S.
- From the data analyzed in Table 1, generalization of skills to discourse following lexical retrieval therapy is more unlikely the more severe the disease is and if the client has a subtype other than PPA-S.

Relevance to Practice
1. Beales et al. (2016), Henry et al. (2013) and Grasso, Shuster & Henry (2017) demonstrated that using an individualized cueing hierarchy that capitalizes on residual cognitive skills can increase ability to label objects and may promote generalization in PPA-S.
2. Croot et al. (2015) demonstrated the importance of choosing personally relevant stimuli. Clients experienced increased motivation to participate in therapy when word targets are personalized.
3. Immediate treatment gains and maintenance of gains were demonstrated for all PPA subtypes following any kind of lexical retrieval therapy. The most underrepresented subtype in this review is PPA-G.
4. Assigning homework beyond therapy and caregiver training are both imperative in promoting carry over and practice of relevant skills for speech and language.
5. Since LRT has demonstrated preservation of skills in the face of other cognitive decline (Henry et al., 2013), it may be a beneficial treatment given the progressive nature of PPA.

References