Introduction

- Individuals with Mild Cognitive Impairment (MCI) experience cognitive deficits (e.g., memory impairments) that are greater than normal aging, but do not exceed dementia (Peterson, 2007).
- People with MCI typically live independently, but demonstrate a decline in speed and efficiency with which they complete daily activities.
- Half of these individuals will eventually be diagnosed with dementia and half will continue to experience greater than normal aging deficits (Doty, 2007).
- Interventions that teach the use of external memory aids (EMA) can help people compensate for memory impairments.
- Group treatment is one strategy for teaching people with MCI strategies to compensate for cognitive impairments (Bourgeois, 2013; Kinsella, 2009).

Study Purpose: To examine the effects of a MCI group treatment intervention on cognitive skills, functional EMA use, six-week maintenance of skills, and EMA preferences.

Methods

Participants

<table>
<thead>
<tr>
<th>Participant</th>
<th>Group</th>
<th>Age (years)</th>
<th>Years of Education</th>
<th>MoCA Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>P1</td>
<td>Group One</td>
<td>88</td>
<td>12</td>
<td>24</td>
</tr>
<tr>
<td>P2</td>
<td>Group Two</td>
<td>72</td>
<td>14</td>
<td>24</td>
</tr>
<tr>
<td>P3</td>
<td>Group One</td>
<td>86</td>
<td>12</td>
<td>22</td>
</tr>
<tr>
<td>P4</td>
<td>Group Two</td>
<td>74</td>
<td>12</td>
<td>21</td>
</tr>
<tr>
<td>P5</td>
<td>Group One</td>
<td>75</td>
<td>12</td>
<td>22</td>
</tr>
<tr>
<td>P6</td>
<td>Group Two</td>
<td>78</td>
<td>14</td>
<td>24</td>
</tr>
</tbody>
</table>

- Six females participated ages 72-88 years old.
- Participants were randomly divided into two equal groups (Moca mean score of 23).
- Scored between a 21-24 on the Montreal Cognitive Assessment (MoCA).
- Group 1 participants’ mean age: 82 years.
- Group 2 participants’ mean age: 75 years.
- Lived independently at a Senior Retirement Apartment Center.
- No previous dementia diagnosis.
- Passed vision, hearing and upper extremity screening.

External Memory Aids Used in Treatment

<table>
<thead>
<tr>
<th>Session 1</th>
<th>Session 2</th>
<th>Session 3</th>
<th>Session 4-6</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Introduction of the treatment approach</td>
<td>2. Introduction of first category of external aids</td>
<td>1. Review of last week’s category of external aids and home practice activity</td>
<td>1. Review of last week’s category of external aids and home practice activity</td>
</tr>
<tr>
<td>3. Intensive and repetitive practice of aids</td>
<td>4. Explanation of home practice with new aids</td>
<td>2. Introduction of a new category of external aids</td>
<td>2. Focus on each participants’ preferred type of external aid within the category</td>
</tr>
<tr>
<td>4. Explanation of home practice with new aids</td>
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</tbody>
</table>

- Throughout the treatment sessions, three categories of EMAs were taught during two non-consecutive sessions.
- Within each category of EMA, three types were taught (i.e., no-tech to high-tech approaches).

Procedures

<table>
<thead>
<tr>
<th>Groups</th>
<th>Week 1</th>
<th>Week 2</th>
<th>Week 3</th>
<th>Week 4</th>
<th>Week 5</th>
<th>Week 6</th>
</tr>
</thead>
<tbody>
<tr>
<td>Group One</td>
<td>Pre-treatment Assessment</td>
<td>Group Treatment</td>
<td>Post-treatment Assessment</td>
<td>No Treatment</td>
<td>Follow-up Assessment</td>
<td></td>
</tr>
<tr>
<td>Group Two</td>
<td>Pre-treatment Assessment</td>
<td>Second Pre-treatment Assessment</td>
<td>Group Treatment</td>
<td>Post-treatment Assessment</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

- The sessions occurred in a Senior Retirement Center meeting room.
- Each participant completed three individual assessment sessions and six consecutive group treatment sessions lasting 90-minutes each.
- All assessment sessions included:
  - The Montreal Cognitive Assessment (MoCA)
  - Arizona Battery for Communication Disorders of Dementia (ABCD)
  - Immediate and Delayed Recall Subtests
  - Multifactorial Memory Questionnaire (MMQ)
  - Strategy Subtest
  - Role Play Activity (7 items)

- A post-treatment questionnaire was also administered.
- Group 1 started treatment immediately following pre-treatment assessments and Group 2 was delayed 6 weeks.

Results

Functional EMA Use and Participants’ Perceptions

- Intensive and repetitive practice of aids Intensive and repetitive practice of aids

Cognitive Skills

EMA Preferences

Post-Treatment Findings

- Similar to other MCI intervention studies, the participants increased their use of EMAs (Bourgeois, 2013; Kinsella et al., 2009).

Discussion

Maintenance Findings

- Group 1 participants were reassessed at six weeks post-treatment to measure maintenance of skills. Only two participants continued to increased their EMA use. Future studies should examine methods to encourage maintenance of EMA use.
- Group 1 participants’ maintenance or gains on the ABCD at six week follow up further support intensive, single-strategy group treatment for people with MCI.

EMA Preferences

- Previous research suggests that adults prefer electronic EMAs (Cohen-Mansfield et al., 2005). However, no current study participants preferred electronic EMAs. Participants preferred simple, portable EMAs.
- Individual participants preferred different types of EMAs (e.g., monthly versus daily calendar). Results highlight the importance of providing people with MCI with multiple opportunities to practice various types of EMA to ensure maximum success.