Aug 17th, 10:00 AM - 11:30 AM

The Effects of Complementary and Alternative Medicine Therapies on Cognition in Older Adults Diagnosed with Mild Cognitive Impairment: An Integrative Literature Review

Candance Swanigan
candanceswanigan@gmail.com

Follow this and additional works at: https://via.library.depaul.edu/nursing-colloquium

Part of the Alternative and Complementary Medicine Commons, and the Nursing Commons

https://via.library.depaul.edu/nursing-colloquium/2018/summer/4

This Event is brought to you for free and open access by the School of Nursing at Via Sapientiae. It has been accepted for inclusion in Grace Peterson Nursing Research Colloquium by an authorized administrator of Via Sapientiae. For more information, please contact wsulliv6@depaul.edu, c.mcclure@depaul.edu.
The Effects of Complimentary and Alternative Medicine Therapies on Cognition in Mild Cognitive Impairment: An Integrative Literature Review

Candance Swanigan, Research Advisor: Young-Me Lee
DePaul University, School of Nursing

**Background**

- Complementary and Alternative Medicine (CAM) techniques are defined as health care approaches and healing systems that are not derived from "conventional" Western medicine, and are typically used concurrently with conventional medicine, such as in the field of integrative medicine.
- Mild cognitive impairment (MCI) is a category of cognitive impairment defined as a measurable deficit in cognition that does not meet the criteria for dementia nor produce significant impairment in activities of daily living (McDade & Petersen, 2018). MCI often progresses to Alzheimer’s disease.

**Purpose**

- This integrative literature review aims to provide a comprehensive review of current research on CAM therapies to prevent cognitive decline and improve memory in older adults with mild cognitive impairment. By identifying effective and safe CAM modalities, nurses can gain knowledge on and make research-based recommendations to clients.

**Research questions:**

- What complementary and alternative medicine therapies are commonly utilized to prevent and improve cognitive decline in patients diagnosed with mild cognitive impairment?
- How do CAM therapies impact cognitive function for patients diagnosed with mild cognitive impairment?

**Methods**

The integrative literature review was guided by Garrard’s Matrix Method (2017). The following databases were searched: PubMed, CINAHL, ProQuest Nursing & Allied Health Source, and PsyDNEO. The literature search included text combinations of: complementary and alternative, alternative therapies; integrative health, natural products, cognition, memory.

**Inclusion Criteria:** Peer-reviewed articles, adults over 55 years old with diagnosis of MCI, cognition as one of the primary outcome variables.

**Exclusion Criteria:** dementia not specific to MCI, MCI due to factors other than neurodegeneration or Alzheimer’s disease.

A total of 17 studies were used in the review.

**Results (continued)**

<table>
<thead>
<tr>
<th>Key</th>
<th>Significant improvements</th>
<th>No significant effects/ Conflicting evidence</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Yoga</strong></td>
<td>Kundalini yoga, paired with a daily 12-minute Kirtan Kriya meditation and homework assignment produced significant improvements in immediate and delayed recall, executive functioning, visuospatial memory, and semantic fluency both at 12 and 24 weeks.</td>
<td></td>
</tr>
<tr>
<td><strong>Gingko biloba</strong></td>
<td>G. Biloba (240 mg/day) produced no significant effects on cognition when compared to a placebo treatment when measured with the ADAS-cog, but did produce results on attention, executive function, and psychomotor speed when measured using the Trail Making Test A/B. Also did not affect annual rates of cognitive decline in any domains, including memory, attention, visuospatial abilities, language, and executive function.</td>
<td></td>
</tr>
<tr>
<td><strong>Meditation</strong></td>
<td>11 minutes, twice a day was correlated with significant improvements in retrospective memory. No statistically significant changes were seen in the ADAS-cog score after 8 weeks, but there was a trend towards improvement for the treatment group.</td>
<td></td>
</tr>
<tr>
<td><strong>Calligraphy</strong></td>
<td>It was found to have positive effects on MMSE scores (∆ MMSE score = 2.36, ∆P = .01) after eight weeks of calligraphy writing sessions five times per week, with each session lasting 30 minutes.</td>
<td></td>
</tr>
<tr>
<td><strong>Electroacupuncture</strong></td>
<td>After an intervention of twenty-four 30-minute scalp electroacupuncture sessions, delivered three times a week, MMSE improved from 25.1 ± 0.9 at baseline to 26.5 ± 1.3 (P=0.000) after 8 weeks. This intervention performed better than a pharmacological intervention of 30 mg nimodipine, three times a day, for 8 weeks.</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>Results</strong></th>
<th><strong>Key</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Traditional Chinese medicine</strong></td>
<td>After 6 months of the herbal shen niu capsule (5 capsules/time, 3 times/day), mean changes from baseline ADAS-cog score was -4.23 (SO=0.57) (Tian et al., 2017). The finding was similar (p&lt;0.001) to participants who received donepezil (Aricept), 5mg/day.</td>
</tr>
<tr>
<td><strong>Green Tea Extract + L-Theanine</strong></td>
<td>The following combination, 360 mg of green tea extract, 60 mg of L-theanine, 5.7 mg of silicone dioxide, and 4.3 mg of magnesium stearate, taken twice a day for 16 weeks, was correlated with significant improvements in memory, immediate and delayed recall (p&lt;0.05) for subjects with baseline MMSE score of 21-23, when compared to placebo. When all subjects were analyzed (MMSE scores of 21-26) improvements were not different from placebo.</td>
</tr>
<tr>
<td><strong>Traditional Korean medicine</strong></td>
<td>Dangguijagyagyu, angelica and peony formula (DJS) at a dose of 1.875 g taken 30 minutes after a meal with warm water twice daily for 3 months, increases MMSE scores from 21.84 ± 3.9 before treatment to 24.43 ± 3.13 after treatment (p&lt;0.001). Improvements from baseline were sustained one-year post-intervention.</td>
</tr>
</tbody>
</table>

**Discussion**

- There is limited research on CAM and cognition in MCI. This review found promising results that suggest the potential effectiveness of CAM therapies to improve memory. Advantages to these interventions include low cost, low rate of reporting adverse side effects, ease of use, and high compliance among study participants. Limitations of the data collected include small sample sizes, short follow-up times, and a lack of consistency of cognitive assessment tools. Further research is needed to expand the knowledge on this area, with emphasis on its sustained effects, impact on quality of life, and establishing guidelines to ensure consistency. CAM therapies have the potential to play a role in integrative and holistic care of older patients experiencing MCI to help preserve and enhance cognition.

I would like to express my deep appreciation to Dr. Young-Me Lee, Dr. Bo Hee Kang, Dr. Karen Larimer, and Dr. Elizabeth Aquino for their support and guidance throughout the research process.