Dementia and Technology: Evidence Supporting Assistive Technology for Individuals with Alzheimer’s Disease and Related Dementias

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Dementia and Technology:
Evidence supporting the use of assistive technology for individuals with Alzheimer’s disease and related dementias
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Presented in Partial Fulfillment of the Master of Science in Occupational Therapy degree at Thomas Jefferson University

Objectives of Presentation:
1) Recognize the potential for and the use of assistive technology (AT) with Alzheimer’s disease or related dementias (ADRD).
2) Identify the context in which AT can be used with individuals with ADRD.
3) Describe how AT is being used to promote engagement in meaningful occupations for individuals with ADRD.
4) Discuss the opportunities for occupational therapy to contribute to the efficacy of AT with ADRD.

Clinical Question: What is the evidence to support the use of assistive technology to promote participation in meaningful occupations for individuals with Alzheimer’s disease or related dementias?

Methods:
- Databases: CINAHL, Cochrane, OvidSP, PubMed
- Search terms:

<table>
<thead>
<tr>
<th>Population</th>
<th>Intervention</th>
<th>Outcomes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Elder adults</td>
<td>Cognitive impairment*</td>
<td>Assistive technolog*</td>
</tr>
<tr>
<td>Older adults</td>
<td>Neurocognitive disorder*</td>
<td>Smart home</td>
</tr>
<tr>
<td>Dementia</td>
<td>Parkinson*</td>
<td>Technolog*</td>
</tr>
<tr>
<td>Frontotemporal</td>
<td>Parkinson* disease</td>
<td>Occupational therapy</td>
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<tr>
<td>Alzheimer*</td>
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</tbody>
</table>

- Inclusion Criteria: Peer-reviewed journals published from 2000 to present, individuals with ADRD, and the use of assistive technology; articles discussing other populations were excluded
- 248 articles yielded from databases; only 8 articles were identified to meet inclusion criteria and 4 additional articles were identified through other sources (8 qualitative, 4 quantitative)
- Critique Process: Two authors served as reviewers and completed either the Law & McDermid Appendix M (2008a) and Law & McDermid Appendix N (2008b) or the Law and McDermid Qualitative Review Form (2008c) to critically appraise the articles.

Results:
This literature review indicates testing specific prototypes of AT to promote meaningful occupations of individuals with ADRD is in the preliminary stages. Prototypes have shown the potential of promoting participation within the individual’s living space. Prototypes are continually being modified to maximize engagement in meaningful occupations. AT decreases caregiver assistance during daily occupations. The simplicity and familiarity of the design of AT increases its use by individuals with ADRD and caregivers. When using AT it is critical to consider the environment. Satisfaction of individuals with ADRD and caregivers are important in implementing client-centered AT interventions. Occupational therapists are equipped with the knowledge and skills to serve as consultants during the development of AT.

References


