

CRITICALLY APPRAISED TOPIC (CAT) WORKSHEET

Focused Question:

What is the effectiveness of reminiscence-based interventions on reducing disruptive behaviors in older adults with dementia?

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Clinical Scenario:

According to the Alzheimer's Association, Alzheimer's Disease was the sixth leading cause of death in the United States in 2020 and roughly 5 million Americans are currently living with the disease (Alzheimer's Association, 2021). In 2021, Alzheimer's and other dementias will cost the nation in healthcare costs approximately \$355 billion, and that cost is predicted to be \$1.1 trillion by 2050 (Alzheimer's Association, 2021). As the population continues to age and the incidence of Alzheimer's Disease and dementia continue to rise, the need for treatment strategies and interventions to reduce the symptomology and effects of Alzheimer's Disease will also continue to grow. One common symptom of Alzheimer's Disease is personality or emotional changes that can frequently lead to disruptive behaviors and can ultimately increase caregiver burden (AOTA, 2011).

Occupational therapists can assist in treating symptoms of Alzheimer's Disease by addressing strategies to improve occupational engagement, provide support for caregivers and support the emotional health of clients, amongst many other priority areas for treatment (AOTA, 2011). The American Occupational Therapy Association (AOTA) provides a few different strategies for how to support individuals with Alzheimer's Disease, one of which is to create and maintain an emotional connection with the diagnosed individual (AOTA, 2011). One method to help create an emotional connection with an individual is through reminiscence therapy (RT). Reminiscence therapy provides opportunity for an individual to revisit moments from the past through storytelling, photos and other memory-stimulating modalities, and has been shown to improve self-esteem and create a sense of fulfillment about the individual's life as they revisit those memories (Klever, 2013). RT therapy can include asking open-ended questions throughout everyday activities, such as while enjoying a meal or taking a walk, or it can also include more formalized interactions such as in a group setting and project-based activities (Klever, 2013). The versatility of reminiscence therapy is a great option for occupational therapists to consider as they can implement these strategies with individuals with dementia during everyday therapy sessions or utilize these activities as the primary focus and goal of the therapy session. In creating these emotional connections, the individual with dementia or Alzheimer's Disease can remain in the present and engage with the therapist and experience improved self-esteem, thus reducing disruptive and agitated behaviors. Reducing these behaviors can be beneficial for the daily caregivers caring for the

individual with dementia, reducing the overall burden of care, but can also be effective for improving the individual's participation in occupational therapy activities.

Summary of Key Findings:

Summary of Levels I, II, and III

Level I:

- Reminiscence Therapy (RT) may be a promising non-pharmacological treatment to improve cognition, as well as decrease anxiety, depressive symptoms, and altered behaviors in individuals with dementia (Lopes et al, 2016, Level I, Woods et al, 2018, Level I).
- Reminiscence therapy (RT) demonstrated a decrease in agitated behaviors for individuals with dementia within 1 week following the intervention, but a long-term decrease in agitated behaviors was not observed (Hsiao et al, 2020, Level I).
- Digital RT intervention modalities resulted in decreases in depression and anxiety for individuals with dementia (Moon & Park, 2020, Level I).
- Depression and Behavioral and Psychological Symptoms of Dementia (BPSD) were significantly decreased, and Quality of Life (QoL) was significantly increased in the RT groups compared to the control group that received no intervention for individuals with dementia (Park et al., 2019, Level I, Moon & Park, 2020, Level I).
- Research suggests that reminiscence therapy interventions that are conducted for more than 8 sessions may be necessary to observe the therapeutic effects on QoL and BPSD for individuals with dementia (Park et al., 2019, Level I).
- An individual approach to RT demonstrated a stronger benefit in reducing depression than a group setting approach (Park et al., 2019, Level I).
- Despite several promising findings regarding RT, the effects of reminiscence interventions are relatively inconsistent, due to small sample sizes in peer-reviewed studies and differences across intervention settings – either in the client's home or community - and modalities (Woods et al., 2018, Level I). Further studies are necessary to fully understand the impact of RT for individuals with dementia.

Summary of Level IV

Not included in review

Contributions of Qualitative Studies:

Not included in review

Bottom Line for Occupational Therapy Practice:

The clinical and community-based practice of OT:

The effectiveness of reminiscence-based interventions for older adults with dementia may be impacted by several factors. The population, the geographic area, the setting, the type of reminiscence intervention, and the degree and type of dementia diagnoses will all play a role in the effectiveness of RT interventions with individuals. However, due to the absence of negative side-effects of reminiscence therapy interventions that focus on positive life events, OT's may freely explore the therapeutic effectiveness in any setting with the dementia population as a safe intervention with positive outcomes.

Reminiscence therapy interventions should be implemented in 6-8 sessions for a duration of 4-8 weeks of 30-60 minutes each. Varying structured, unstructured, digital, virtual or conventional reminiscence interventions may be used; however, individual versus group therapy is more effective in decreasing depression, improving behavioral and psychological symptoms of dementia, and improving quality of life. Depending on the degree and stage of dementia, occupational therapists can add or grade RT interventions within functional activities to improve mood and rapport with clients.

Reminiscence therapy can be used in combination with other therapeutic interventions. Short term benefits of art and/or RT interventions can result in improved agitated behaviors and improve overall quality of life of individuals with dementia. RT can reduce anxiety, depression, and disruptive behaviors associated with dementia, thus improving engagement and participation in therapy sessions.

Other benefits of reminiscence therapy in individuals with dementia are improved cognition, mood, and memory, which may help maintain participation in functional activities of daily living. OT's can use RT as part of a holistic approach to patients with dementia in various settings with positive outcomes.

Program development:

Reminiscence Therapy (RT) can be utilized by occupational therapists as an adjunctive therapy intervention, such as a preparatory method, when working with individuals with dementia. RT has been shown to decrease agitated and disruptive behaviors, improve mood and develop client rapport when working with individuals with dementia. These positive effects can be helpful to increase an individual's participation in therapeutic activities and interventions and therefore can be an excellent way to begin the therapy session.

Additionally, there is some evidence that RT, either in a digital RT format or a conventional storytelling format could also be beneficial as a stand-alone intervention program. This could be a program that is completed on an individual basis or in a group-based setting. Similar effects of decreased agitated and disruptive behaviors, improvements in mood and improvements in overall quality of life would also be anticipated for both of these RT modalities as well.

Societal needs:

Caregivers of individuals with dementia can often experience significant caregiver burden as they seek to support these individuals during ADLs and IADLs. Disruptive behaviors, such as agitation, wandering, altered emotional responses and several others can cause the overall caregiver burden to be further exacerbated. There can be significant cost associated with respite care services and caregiving services to help with the care of individuals with dementia. Dementia care centers that care for individuals with dementia may also require additional staffing to care for and anticipate disruptive behaviors. An intervention, like RT, that reduces some of these dementia-associated disruptive behaviors, can help to reduce the overall caregiver burden, thus reducing cost of caregiving services and the number of staff required at a dementia care facility.

Additionally, significant resources go towards pharmacological treatments of disruptive behaviors of individuals with dementia and with these treatments come significant costs. RT provides a non-pharmacological option for treating these disruptive behaviors. While there is an associated cost for training and staffing individuals to facilitate RT, the overall cost burden to the individual, their family, a health care facility and insurance companies could gradually decrease as the individual may require fewer pharmaceutical options for helping to mitigate disruptive behaviors.

Healthcare delivery and health policy:

Evidence for reminiscence therapy can help to inform public policy related to mental health services and reimbursement by providing evidence for non-pharmacological interventions for depression and behavioral and psychological symptoms of individuals with dementia. Reducing pharmacological dependence to minimize disruptive behaviors in care and home settings by implementing mental health treatments such as reminiscence therapy will decrease drug costs and negative side-effects.

Education and training of OT student:

OT students who plan to work with individuals with dementia may benefit from training in reminiscence therapy to improve clients' overall mood and depressive symptoms. Reminiscence therapy is a tool that can be implemented particularly to reduce agitated behaviors as well as improving patient rapport, quality of life and occupational engagement.

Refinement, revision, and advancement of factual knowledge or theory:

In order to refine OT knowledge and theory and address limitations of currently published studies, further RCTs that continue to discover impacts of reminiscence therapies in various delivery forms, in various settings, and with diverse populations and diagnoses are recommended. Assessing the impacts of reminiscence interventions with multiple measures, other than self-reporting, would help reduce potential biases. Longer term interventions and effects of therapy may better inform future OT knowledge and practice.

Review Process:

- Developed Focus Question for literature search: “What is the effectiveness of reminiscence-based interventions on reducing agitated behaviors in older adults with dementia?”
- Conducted literature search using (P), (I) and (O) and related search terms in databases.
- After exhaustive database searches, relevant articles were retrieved and saved.
- The wording of our focus question was changed slightly from “agitated behaviors” to “disruptive behaviors” to represent more of our findings.
- Articles that met the inclusion criteria and addressed the (P), (I), and (O) of the focus question were reviewed in depth.
- 15 full-text articles met the guidelines and were reviewed.
- After applying the inclusion and exclusion criteria, six articles were selected for the Evidence Table and analyzed.
- Using the information provided in the Evidence Table, an aggregate summary was created to inform this Critically Appraised Topic (CAT).

Procedures for the selection and appraisal of articles:

Inclusion Criteria:

- Published from 2016-2021
- Peer reviewed Level I articles including systematic reviews of RCTs
- Written in English

Exclusion Criteria:

- Published prior to 2016
- Did not include one of the elements of the (P), (I), and (O) of the focus question
- Level II-V studies
- Qualitative studies
- Duplicate articles used in systematic reviews

Search Strategy:

Categories	Key Search Terms
Patient/Client Population	older adults with dementia, older adults with Alzheimer’s Disease, patients with dementia, older adults with memory impairments, older adults, older adults with cognitive impairments, people with dementia
Intervention	reminiscence therapy, reminiscence-based interventions, reminiscence
Outcomes	agitated behaviors, behaviors, aggression, disruptive behaviors, behavioral disturbance, responsive behaviors

Databases and Sites Searched
CINAHL, Academic Search Premier, MEDLINE, PsycINFO, Cochrane Library, Google Scholar, PubMed

Quality Control/Peer Review Process:

- Two students in the Doctoral Occupational Therapy program developed and refined the focus question after a database search.
- The OTD 442 Critical Analysis of Occupational Therapy Practice course instructor was consulted, gave feedback, and ultimately approved the students’ focus question and research topic.
- The students also collaborated and consulted as a group to check and review each other's work.
- The students completed a CAP on two relevant articles regarding the focus question.
- The students determined key terms for database searches. The focus question was modified based on database search findings and course instructor feedback.
- The evidence table was developed by the students highlighting only Level I studies which met all inclusion criteria.
- The students completed the CAT of the six most relevant articles for the focus question.

Results of Search:

Summary of Study Designs of Articles Selected for Appraisal:

Level of Evidence	Study Design/Methodology of Selected Articles	Number of Articles Selected
I	Systematic reviews, meta-analysis, randomized controlled trials	6
II	Two groups, nonrandomized studies (e.g., cohort, case-control)	0
III	One group, nonrandomized (e.g., before and after, pretest, and posttest)	0
IV	Descriptive studies that include analysis of outcomes (single subject design, case series)	0
V	Case reports and expert opinion, which include narrative literature reviews and consensus statements	0
	Qualitative Studies	0
		TOTAL 6

Limitations of the Studies Appraised:

Levels I, II, and III

<p>Level I:</p> <ul style="list-style-type: none"> • Participants were limited to dementia care facilities in specific geographical regions, affecting generalizability to other geographic areas (Hsiao, Cheyn, Hsiao, Huang & Yeh, 2020, Level I; Moon & Park, 2020, Level I). • In one study, only female participants were recruited affecting generalizability to other populations (Moon & Park, 2020, Level I). • Participants were not distinguished by type of dementia (Park et al., 2019, Level I) or degree of dementia (Woods et al., 2018, Level I). • Sample size was small (Hsiao, Cheyn, Hsiao, Huang & Yeh, 2020, Level I; Lopes, Afonso & Ribeiro, 2016, Level I; Moon & Park, 2020, Level I; Niki et al., 2021, Level I; Woods et al., 2018, Level I). • Length of study was short (Hsiao, Cheyn, Hsiao, Huang & Yeh, 2020, Level I) and follow-up to determine long-term effects was not completed (Lopes, Afonso & Ribeiro, 2016, Level I; Niki et al., 2021, Level I). • No method for controlling co-intervention for potential medication impact on behaviors (Hsiao, Cheyn, Hsiao, Huang & Yeh, 2020, Level I). • A single therapist conducted all interventions (Lopes, Afonso & Ribeiro, 2016, Level I). • Outcome measures relied on self-reporting which could be impacted by memory or recall bias (Lopes, Afonso & Ribeiro, 2016, Level I; Woods et al., 2018, Level I). • A single setting was used in the study (Lopes, Afonso & Ribeiro, 2016, Level I; Niki et al., 2021, Level I). • Study setting was not distinguished (Park et al., 2019, Level I; Woods et al., 2018, Level I). • A placebo or control group receiving a different intervention was not used (Lopes, Afonso & Ribeiro, 2016, Level I; Niki et al., 2021, Level I). • Group vs. individual reminiscence therapy was not distinguished (Park et al., 2019, Level I).

Levels IV and V

Not included in review

Articles Selected for Appraisal:

- Hsiao, C.-Y., Cheyn, S.-L., Hsiao, Y.-S., Huang, H.-Y., & Yeh, S.-H. (2020). Effects of art and reminiscence therapy on agitated behaviors among older adults with dementia. *Journal of Nursing Research*, 28(4), e100. <https://doi-org.cuhsl.creighton.edu/10.1097/jnr.0000000000000373>
- Lopes, T. S., Afonso, R. M. L. B. M., & Ribeiro, Ó. M. (2016). A quasi-experimental study of a reminiscence program focused on autobiographical memory in institutionalized older adults with cognitive impairment. *Archives of Gerontology and Geriatrics*, 66, 183–192. <https://doi-org.cuhsl.creighton.edu/10.1016/j.archger.2016.05.007>
- Moon, S., Park, K. (2020). The effect of digital reminiscence therapy on people with dementia: a pilot randomized controlled trial. *BMC Geriatrics* 20, 166. <https://doi.org/10.1186/s12877-020-01563-2>
- Niki, K., Yahara, M., Inagaki, M., Takahashi, N., Watanabe, A., Okuda, T., Ueda, M., Iwai, D., Sato, K., & Ito, T. (2021). Immersive virtual reality reminiscence reduces anxiety in the oldest-old without causing serious side effects: A single-center, pilot, and randomized crossover study. *Frontiers in Human Neuroscience*, 14, 598161. <https://doi-org.cuhsl.creighton.edu/10.3389/fnhum.2020.598161>
- Park, K., Lee, S., Yang, J., Song, T., & Hong, G. (2019). A systematic review and meta-analysis on the effect of reminiscence therapy for people with dementia. *International Psychogeriatrics*, 31(11), 1581-1597. doi:10.1017/S1041610218002168
- Woods, B., O'Philbin, L., Farrell, E. M., Spector, A. E., & Orrell, M. (2018). Reminiscence therapy for dementia. *Cochrane Database of Systematic Reviews*. <https://doi.org/10.1002/14651858.cd001120.pub3>

Other References:

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- American Occupational Therapy Association (AOTA). (2011). *Living with Alzheimer's Disease*. [https://www.aota.org/-/media/Corporate/Files/AboutOT/consumers/Adults/Alzheimers/Alzheimers%20tip%20sheet%20\(2\).pdf](https://www.aota.org/-/media/Corporate/Files/AboutOT/consumers/Adults/Alzheimers/Alzheimers%20tip%20sheet%20(2).pdf)
- Klever, Sandy. (2013). Reminiscence therapy: finding meaning in memory. *Nursing*, 43(4), 36-37. doi: 10.1097/01.NURSE.0000427988.23941.51