

Using VR Videos to Reduce Dementia Distress.

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Introduction

with experience dementia often Persons neuropsychiatric symptoms, such as aggression, agitation, anxiety, depression and apathy¹. These responsive behaviours can cause high distress for the individual and their caregivers². Exploring non-pharmacological strategies may be a valuable approach to supporting individuals with dementia and their caregivers. The use of distraction techniques is commonly suggested to minimize responsive behaviours³. The use of Virtual Reality (VR) technology, may provide a calming distraction. Recent advances in the affordability, simplicity, and portability of virtual reality may permit the incorporation of this technology into the home care environment.

Figure 1: Data Collection Plan



Conclusion and Recommendations

Overall, caregivers did not find VR to be a useful tool at home to manage responsive behaviours

presented by their loved ones.

- Semi-structured Interview



 Cohan-Mansfield Agitation 'Caregiver Log' to record Inventory (CMAI) their experience with VR Participant Information Form

Mini Mental State Exam (MMSE)

Review of Caregiver LogCohan-Mansfield Agitation Inventory (CMAI)

Standardized tools were administered to measure severity of dementia symptoms (MMSE) and responsive behaviours (CMAI). frequency of Interviews and review of the 'caregiver log' followed the intervention to help the study team understand the caregivers' experiences in their own words.

Results

Nine client and caregiver dyads (n=9) participated in the study.

• Based on MMSE scores (n=7), 3 clients enrolled clients had severe dementia and 4 had

Caregivers believed that there is potential for VR use in the home if the following conditions are met: Headset/device design modifications •Availability of personalized videos for users co-designed with caregivers

Incorporating users' personal history into videos

VR was a positive experience for one family, however there is insufficient data to suggest that it impacted responsive behaviours in this study.

Future research should explore the ways in which VR technology can be simplified and co-designed to

Objectives

In this study, we explored if Virtual Reality technology could be used as an effective home care tool. The main objective:

•to examine whether Virtual Reality technology can be tolerated and accepted by individuals with dementia and their caregivers.

moderate dementia

• Over a two week period, there was low uptake of the device by caregivers, typically ranging from 1-4x use. One family used the device 14x.

 Caregivers provided mixed responses and barriers to adoption of VR (Figure 2).

 Results from the CMAI showed no significant changes in agitation behaviours post-VR.

Figure 2: Caregiver Feedback

Challenges	
 Technical Issues: 	 Tool is time consuming
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align with the needs of caregivers and clients.



References

1Trivedi D. Goodman C, Dickinson A. et al. A protocol for systematic review of research on managing behavioral and psychological symptoms in dementia for community dwelling older people; Evidence mapping and syntheses. Systematic Reviews 2013; 2:1-9. 2Alzheimer's Society of Ontario. (2017, Nov 8). What are responsive behaviours. Retrieved from http://alzheimer.ca/en/on/We-can-help/Resources/Shifting-Focus/What-areresponsive-behaviours.

Methodology

The study utilized a mixed method approach.

To achieve our objective the following data collection methods were employed (Figure 1). Training on use of device, Samsung Gear VR, and *Relax VR* video application was provided to caregivers during the initial visit with the study team.

 Samsung Gear nardware challenging to use Headset uncomfortable Software menu screens difficult to navigate

• videos are not stimulating Supervision required at all times No impact on aggressive or distressed behaviours

Recommendations

• Potential for Virtual Reality to be used as a social engagement tool •VR could be better applied in a day program setting or for recreational use

• May yield favourable results if used by individuals with early onset Dementia or Alzheimer's

3Eska K¹, Graessel E¹, Donath C¹, Schwarzkopf L², Lauterberg J³, Holle R². Predictors of institutionalization of dementia patients in mild and moderate stages: a 4-year prospective analysis. Dementia and Geriatric Cognitive Disorders Extra. 2013 Nov 1;3(1):426-45.

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