and outcomes through its multi-modal approaches, including gamification (usage of game-based elements in a non-game context to engage learners and promote learning), active observational practice, independent hands-on practice, case-based discussion, peer-to-peer assessment, expert facilitated feedback, skills debriefing and reflective practice.

Conclusion: This micro-credential program will provide an enhanced dementia care curriculum for building capacity of existing workers, and those entering into the workforce to promote a dementia-friendly environment for older adults.

Using Virtual Reality to Facilitate Reminiscence Therapy for People with Dementia

Authors: Sun, Winnie. & Burhan, Amer .M.

Background: Reminiscence therapy (RT) is a multi-sensory treatment that uses a combination of sight, touch, taste, smell and sound to help people with dementia (PWD) remember events, people and places from their past lives. Currently, digital technologies such as mobile applications and immersive solutions including virtual and augmented reality, are gaining momentum as supplementary tools for RT. This paper presents a usability study of a web-based and virtual reality application to understand the limitations and opportunities of digital platforms for facilitating engaging experiences for PWD towards recalling memories, while easing the therapy process for the caregivers.

Methods: A total of fifteen healthcare caregivers were recruited from the Geriatric Dementia Unit and Geriatric Transitional Unit in Ontario Shores Center for Mental Health Sciences, Ontario Canada. Usability feedback from the caregivers were collected from the interviews after the completion of the System Usability Scale (SUS) questionnaire.

Results: Healthcare caregivers found both web-based and virtual reality (VRRT) usable with SUS score above average (68/100), but required improvements related to the onboarding training of caregivers. The interview revealed four overarching themes related to the VRRT: (1) Ease of use; (2) Positive impact on caregiving; (3) Potential reduction in behavioral symptoms; (4) Feasibility of promoting social connection during COVID-19 pandemic.

Conclusion: Next steps will focus on improving the user experience and expanding the application for immersive VR supporting head-mounted displays, hand tracking, and physiological measures, as well as conducting a usability study with PWD to expand our understanding of using RT digital tools with various levels of immersion.

Virtual reality to provide caregiver skill development and problem solving

Authors: Chiu, Mary and Burhan Amer M.

Background: Caring for persons with dementia (PWD) leads to disproportionate vulnerability to physical, mental, and social adverse health consequences among caregivers (CGs). The VR-SIMS CARERS Initiative aims to engage Knowledge Users (KUs), older adults and community stakeholders in the co-design of a Virtual Reality (VR) simulation training environment for dementia caregivers, and to explore end-user's perspectives, design and implementation challenges and opportunities (e.g. digital literacy, technology readiness, VR acceptability), to ensure that the resulting "Minimally Viable Prototype" is clinically efficacious, scalable and sustainable.

Objectives & Methodology: The specific objectives of this study are to:
> 1. employ a co-design approach to develop and validate an immersive VR simulation training environment for CGs to be in touch with realities of caregiving, practice communications and behavioural management of PWD based on the well-established CARERS Program;

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2. to evaluate feasibility, acceptability, tolerability informed by VR-CORE Framework and Hybrid development-implementation design, and to explore issues around implementation of the VR simulation training platform; and

3. to conduct pilot testing to examine a) initial clinical efficacy of VR-based CG training in improving quality of relationship with PWD, competence, resilience, and reducing depression and stress in dementia CGs and its b) readiness for implementation in the community.

Anticipated Outcomes: VR-SIMS CARERS innovation is intended to be an accessible, scalable and sustainable VR simulation training platform that will support CGs in the practice and acquisition of essential dementia caregiving skills, enhancing their caregiving competence and resilience. Training CGs to recognize and manage stressors can lower their risk of overall mental health decline.

S14: The use of advanced data and sensortechnology in dementia: innovation and implementation

Chair: Sarah Janus, Department of General Practice and Elderly Care Medicine, Alzheimer Center Groningen, University of Groningen, University Medical Center Groningen;

Main Abstract

The use of health care technology to support informal and formal caregivers in decision making for proper guidance of care for people with dementia, is rising over the last decade. For example, (tools within) electronic health records systems, technological devices such as wearables and devices using sensor technology (domotics) are more and more available in health care. Recent developments of artificial intelligence (e.g. machine learning, deep-learning, text mining) can be useful to provide a more advanced use of sensor and other data, and contribute to a better guidance of (person)centered care. However, the use of health care technology (and the data it accumulates) could – when used appropriately and meeting the needs of (in)formal care workers who use this technology- help to relieve the burden of care (in times of lack of staff resources), delay nursing home admission and reduce corresponding costs. Unfortunately, some of these developments, not always meet the needs of care workers and informal caregivers caring for people with dementia.

For health care technology to be able to contribute to personalized dementia care, a combination of innovation (novel technology) and implementation is necessary. A wider use of novel technology on a broader scale is necessary to generate impact. For a proper implementation, several factors such as staff opinions that may be reluctant to using novel technology, data safety and ethical issues have to be taken into account. In addition, a proper training guiding the process of implementation is crucial.

In this workshop, we will provide several examples of applications in health care based on data usage and sensor technology: (1) the use of (the combination of) qualitative and quantitative data for personalized health care, (2) wearable sensors to measure stress, a phenomenon that is regarded as an early warning for the onset of challenging behavior in people with dementia, (3) combination of ambient and body mounted sensors to monitor challenging behavior and to prevent further deterioration, (4) the practical use of communication, tracking and sensor technology to support welfare to people with dementia and caregivers in the community.