

OPP: APPLICATION FIELDS & INNOVATIVE TECHNOLOGIES

Addressing social isolation and cognitive decline in care homes with virtual reality: Challenges and early benefits in Germany and Czechia

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Purpose The immersivity and versatility of virtual reality (VR) offers vast potential for providing older adults in care homes with stimuli from the outside world, thus helping them to maintain their physical, psychological, and cognitive health. However, similarly to many assistive technologies and other digital innovations in the senior care sector, the adoption rate of VR-based tools remains rather low. The purpose of this paper presentation is to shed more light on the benefits of such applications as experienced by care staff and older adults themselves, as well as on the barriers preventing large scale integration of VR in care home routines. Research preceding the COVID-19 pandemic, which only boosted the widespread issue of social isolation in nursing homes, delivered promising evidence of the numerous benefits VR content may bring to the ageing population. An RCT in Korea (Thapa et al., 2020) supported the potential of virtual experiences in decelerating or stopping cognitive decline which was in line with the finding of D’Cunha et al. (2019) that VR content may strengthen overall mental wellness in the long term. Other studies highlighted that to produce positive health outcomes (especially in the case of older adults with dementia), VR content must be tailored to their specific needs, ideally by being only semi-interactive (Kim, Pang, & Kim, 2019) and providing 360-degree film-based sceneries instead of truly virtual environments (Appel et al., 2020). The great majority of such research-based insights comes from non-European countries, hence the aim of this paper to explore the acceptability and effectiveness of virtual experiences as a tool for occupational therapy and cognitive training in Czech and German social care practice. Additionally, this paper strived to contribute to both research and practical advancements by investigating the usability of VR by caregivers who function as gatekeepers of such assistive technologies and play a vital role in the process of capitalizing on the potential of VR for senior care home clients. **Method** This paper showcases two research studies conducted in real-world conditions in 2020 in Czechia and in 2022 in Germany. Both studies followed the same design of providing caregivers in selected nursing homes with VR headsets featuring a set of multiple virtual experiences (10-minute 360-degree films with voiceover narration, categories spanning from travelling to cultural and relaxation experiences and animation-enhanced cognitive training movies) tailor-made for the purpose of boosting older adults’ mental, physical, and cognitive wellbeing. The Czech study involved 40 care facilities and data collection lasted for four months. The subsequent German study was conducted over the course of two months with 13 care homes. Both studies adopted a mixed method involving quantitative data collection through online surveys after occupational therapy sessions completed by the caregiver-client pair (N = 212 in 2020, N = 70 in 2022) and qualitative data collection through phone-based semi-structured interviews conducted with the involved care home staff in the middle and at the end of the study period. Thematic analysis was employed to study the interview data while a combination of various descriptive and inferential statistical methods was applied to analyze the survey data. Participation was completely voluntary, and the care home clients were always reminded that they could end a therapy session with the VR headset at any moment. **Results and Discussion** Both studies yielded supportive evidence for the many health prevention benefits VR content may bring to older adults in care homes. The Czech study found that 80% of the occupational therapy sessions strengthened the client-caregiver bond and showed that VR tools can also effectively facilitate physical activation even in bed- and chair-bound clients, however, the German study reported lower average activation rating (from 1 to 5) with physically disabled clients (3.4) compared to the overall score (4.1). Neither study found any significant relationship between the level of cognitive deficit and the acceptability or effectiveness of virtual experiences which highlights the potential of VR-based tools for therapeutic work with clients suffering from Alzheimer’s disease and other types of dementia. While both studies showed that VR headsets and software may be well-accepted by care home staff and support overall positive atmosphere in care facilities, they also generated anecdotal evidence with strong practical implications on the negative myths about VR circulating among caregivers and several practical hurdles VR tools will encounter in their journey towards mass-scale adoption in social care, such as the weight of the headsets, the challenging disinfection workflow during a respiratory disease epidemic, or the surprisingly high demands on both hardware and content quality expressed by both caregivers and clients. In sum, the two studies presented in this paper provide original evidence grounded in practice and crucial learnings for utilizing virtual reality content for the health and social benefit of older adults.

References

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