

VR can improve quality of life for people with dementia

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Virtual reality (VR) technology could vastly improve the quality of life for people with dementia by helping to recall past memories, reduce aggression and improve interactions with caregivers, new research by the University of Kent has discovered.

The study, conducted by researchers from the University's School of Engineering and Digital Arts (EDA) including Dr. Jim Ang and Ph.D. candidate Luma Tabbaa, took place at mental healthcare provider St Andrew's Healthcare in Northampton.

Eight [patients](#) aged between 41 and 88 who are living with dementia including Alzheimer's disease and Huntington's disease took part in the study. Each patient used a VR headset to 'visit' one of five virtual environments (VEs) of a cathedral, a forest, a sandy beach, a rocky beach, and a countryside scene. Sixteen sessions were monitored with feedback gathered from patients and their caregivers.

One key finding was that VR helped patients recall old memories by providing new stimuli difficult to achieve, due to ill-health, or inaccessible within a secure environment. For example, one patient recalled a holiday when they saw a bridge in the VE because it reminded them of that trip while another remembered a holiday where they visited a market.

These memories not only provided positive mental stimulation for the patients but helped their caregivers learn more about their lives before care, thereby improving their [social interaction](#).

Furthermore, at an arts session some weeks later, one of the patients who had taken part commented that it had been 'brilliant'. He appeared to enjoy reminiscing about the experience and was inspired to draw a seaside picture, suggesting that his VR experience had had a [positive effect](#) on his mood and motivation to engage with the art session.

The patients also demonstrated their own choices during the experiment, with some keen to explore different VEs within a session, while others explored the same environment repeatedly.

Dr. Ang from EDA said a larger study was needed to validate the results, but the early indications showed VR had huge potential in this area: 'VR can clearly have positive benefits for patients with dementia, their families and caregivers. It provides a richer and more satisfying [quality of life](#) than is otherwise available, with many positive outcomes. With further research it will be possible to further evaluate the elements of VEs that benefit patients and use VR even more effectively.'

The researchers added that as it becomes easier to produce 360-degree VR videos it could allow VEs specifically designed for individual patients, such as their home or a favourite location, to be created.

The paper, *Bring the Outside In: Providing Accessible Experiences Through VR for People with Dementia in Locked Psychiatric Hospitals*, has been presented at the ACM CHI Conference on Human Factors in Computing Systems taking place in Glasgow 4-9 May. The findings have also been published in *Proceedings of the SIGCHI Conference on Human Factors in Computing Systems*.

More information: Luma Tabbaa et al, *Bring the Outside In*, *Proceedings of the 2019 CHI Conference on Human Factors in Computing Systems - CHI '19* (2019). [DOI: 10.1145/3290605.3300466](https://doi.org/10.1145/3290605.3300466)

Provided by University of Kent

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