Augmented reality to aid caregivers of patients with dementia

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To the Editor,

Dementia is an illness of old age that produces cognitive and behavioral symptoms that eventually affect the daily lives of patients and their caregivers.[1] Caregivers of people living with dementia (PLWD), which may include formal healthcare workers or informal carers such as family members, are often overworked and face exhaustion. This may lead to a lack of empathy in their interactions with the patients, which can worsen the patients' condition.[3,4]

Augmented reality or AR is when virtual elements are laid over a view of the real-world environment. It has been incorporated in medical teaching, from anatomical models to surgical simulators; in surgery as computer-aided drawn models; in imaging techniques, and in a myriad of other corners of medicine.[2] Recently there have been efforts to develop AR systems to help the caregivers of PLWD. Some of them incorporate an AR headset, coupled with a doll (which simulates the patient), and sensory receptors which detect touch and tactile interaction of the user with the doll (like HEARTS1 and 2). The system provides the user with feedback based on the quality of their interactions with the patient through the headset.[3]

There has also been use of, along with the headset, an "aging suit" (like in AREduX) which works to simulate some of the movement restrictions faced by PLWD, who are generally old. The AR headset presents a game in which the user has to complete daily tasks such as eating, while the system simulates problems of PLWD like confusion, presbyopia, and macular degeneration, amongst others.[4]

Experiences like these can teach caregivers to be more considerate of problems faced by PLWD, which can increase empathy and improve the quality of care they provide. These AR systems can also be useful in training healthcare workers to better care for their patients with such needs.[4] A major drawback of AR devices is that one must learn to operate them properly to fully gain from their use. Moreover, the devices are often expensive, and there is not much high-quality software designed specifically for use with them.[2]

The growing use of AR is bound to eventually lead to improvement and amendments which make it more accessible for use. Such development can further reveal its value in medicine and dementia care in the near future.

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