Virtual Reality Check
Are You Ready?

The future is upon us. Look no further than your Apple Watch or hospital bedside computer to discover that technological advancements are irrevocably changing the way humans interact and health care is delivered. The growing number of technological breakthroughs is causing a paradigm shift in health care delivery, including how nurses provide care and engage older adults in self- and shared-management. It is critical that nurses are engaged in the development, testing, and refinement of these technological advances to optimize their use in improving the well-being of clients.

Originally created for leisure activity (e.g., PC- and video-gaming), virtual reality (VR) is a rapidly evolving technology with a plethora of health care applications. VR immersion uses a headset with audio and visual components often coupled with a head-mounted display to immerse the user into a three-dimensional interactive world (Bricken, 1990; Wilson & Soranzo, 2015). In the early 1990s, talk had already begun about VR interactive learning systems where students could “visit a virtual reconstruction of ancient Greece…[or] become a raindrop and participate in the Earth’s water cycle” (Bricken, 1990, p. 5). Soon after, implementation in health care began when researchers such as Rothbaum, Hodges, and Kooper (1997) used VR for treatment of anxiety disorders. Key areas where VR can be used in nursing include patient and provider education as well as nurse-directed therapeutic interventions.

Patient education, especially for older populations, is key to supporting self-management, promoting health-related quality of life, and preventing hospital readmission. Using VR in patient education may increase learning by providing a safe and efficacious environment to teach many topics across care settings. Possible topics include best practice techniques for insulin injections and demonstrating “teach back” regarding mobility precautions for fall prevention. Experiential learning and simulation are also key to nursing education. Studies have already shown that effective simulation training better prepares RNs for practice (Scherer, Foltz-Ramos, Fabry, & Chao, 2016). In the same manner, simulation mannequins are used to train new RNs and advanced practice RNs. Immersing students into a virtual environment has the potential to be effective for critical thinking and skill development.

At the bedside and in the community, nurses use evidence-based interventions to improve health outcomes. VR is a noninvasive therapy that can be tailored to older populations. Some
exemplars relevant to older patients include use as an adjuvant pain management strategy (Garrett et al., 2014) as well as aid to manage symptoms of anxiety and posttraumatic stress disorder (Beidel et al., 2017; Wiederhold, Gao, & Wiederhold, 2014). VR provides nurses with an intervention that could theoretically decrease patients’ medication use and their risk of delirium. Management of the care environment is a key component of nursing practice to support patient health and healing, especially in hospital, skilled nursing, and long-term care settings (Ulrich, 1984). VR has the potential to provide a healing virtual environment, such as a forest or beach, for clients who may not be able to visit these environments due to physical limitations (Tanja-Dijkstra et al., 2014; Vincent, Battisto, Grimes, & McCubbin, 2010).

Although there are many health applications for VR, some side effects, such as nausea and general malaise, can be experienced (Wilson & Soranzo, 2015). Even so, these symptoms are usually short-lived (Wilson & Soranzo, 2015), and the potential benefits seem to outweigh these side effects. It is unclear whether older adults may be more prone to such side effects, as these individuals are rarely included in development of systems. It is critical to obtain older adults’ active feedback to refine these tools. Further input should also be given to VR designers to help create useful environments for education and treatment while minimizing side effects. Nurses can help bridge the gap between patients and technology designers to successfully integrate VR into care provision.

VR’s potential is truly limitless, and these interventions are becoming more common. It is likely that as VR becomes available in healthcare settings, nurses will use this technology with increasing frequency. Nurses must be involved in the development, implementation, and proliferation of VR to ensure the design of health care technology that supports patient engagement, bridges the research–practice gap, and informs the development and application of key technologies that can improve the health of older adults. Nurses can prepare themselves to integrate VR into health care with education-focused resources through the National League for Nursing’s (n.d.) vSim Curriculum Integration Guides and with research and practice resources through the National Institutes of Health VR Consulting Service (Fortney, 2017) and university-based health science library resources. Further engagement with VR users and designers is also possible through local, VR-focused Facebook* and Meetup.com groups. The future is upon us and nurses must be ready to use VR.

REFERENCES


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