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Getting Personal with Dementia: Physician Assistant Student Virtual Reality Immersion

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Introduction
Approximately 5.7 million people in the United States are living with dementia, with numbers expected to rise to 13.8 million by 2050. 1, 2 As prevalence grows, it is crucial to train future providers to meet the complex and diverse needs of patients and caregivers. Virtual reality (VR) is a growing tool in medical education, but few studies explore this tool for dementia education. One study found VR had a positive impact on medical and pharmacy students’ knowledge and attitudes toward people with dementia. 3 Another study found VR increased the understanding and empathy in medical and physician assistant (PA) students for adults with age-related conditions. 4

Method
Forty nine PA students at the University of New England (UNE) were immersed in a VR experience using software from Embodied Labs with a unique aging female, “Beatriz”, who is surrounded by worsening dementia from the perspective of an aging female. “Beatriz”, who is surrounded by worsening dementia from the perspective of an aging female. One study found VR had a positive impact on medical and pharmacy students’ knowledge and attitudes toward people with dementia. 3 Another study found VR increased the understanding and empathy in medical and physician assistant (PA) students for adults with age-related conditions. 4

Results
Survey and reflection response rate was 100%.

Reflection Results
Reflection results surrounded students’ current knowledge and future practice.

• Students identified the need for altered strategies of communication and care for patients suffering from dementia.
• Many recognized the emotional, physical, and financial stresses placed on caregivers.
• Referral resources and patient and caregiver support teams were identified by many.

Results (cont.)
Survey results revealed a significant increase in self-identified knowledge surrounding impact on quality of life for both dementia patients and caregivers, symptoms of dementia, and strategies for care after the Beatriz VR experience.

Table 1: responses for Agree and Strongly Agree on embedded survey

<table>
<thead>
<tr>
<th>Item</th>
<th>Agree</th>
<th>Strongly Agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>5.0</td>
<td>1.0</td>
</tr>
<tr>
<td>2.</td>
<td>4.0</td>
<td>2.0</td>
</tr>
<tr>
<td>3.</td>
<td>3.0</td>
<td>3.0</td>
</tr>
<tr>
<td>4.</td>
<td>2.0</td>
<td>4.0</td>
</tr>
<tr>
<td>5.</td>
<td>1.0</td>
<td>5.0</td>
</tr>
</tbody>
</table>

Survey results revealed an increase in the number of respondents who agreed or strongly agreed on all five survey questions after the Beatriz VR experience.

Table 2: Mean scores for embedded survey questions

<table>
<thead>
<tr>
<th>Item</th>
<th>Score</th>
</tr>
</thead>
<tbody>
<tr>
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<tr>
<td>2.</td>
<td>3.764</td>
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<tr>
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<tr>
<td>4.</td>
<td>3.00</td>
</tr>
<tr>
<td>5.</td>
<td>3.00</td>
</tr>
</tbody>
</table>

Results (cont.)
Excerpts from reflections:
• “This experience taught me about the barriers: spoken language, interpretation of language and the paranoia of dementia. Going forward, I will be more mindful of how these play into patients with dementia and how I react to their particular responses.”
• “One take away I learned is that as stressful as it seems to be the one with the dementia, it seems to be just as stressful for the ones taking care of the patient with dementia. I feel as though this diagnosis is a very two sided story.”
• “This experience will impact the way I care for patients with dementia, because I now have a clear view of what it might be like to both have dementia and be a caretaker, or a supporting family member trying to take care of their loved one with dementia.”
• “My biggest takeaway specifically from having a VR experience was that common situations can appear dangerous to a patient with dementia, the one scenario where Beatriz’ daughter was coming inside and appeared to be an intruder was frightening. I better understand why dementia patients can become violent at times.”

Conclusion
In conclusion, the immersion VR altered sensers and perception of external stimuli enhancing students’ learning about the complex nature of dementia. It led to increased understanding of the multimodal and multidisciplinary care necessary for patient treatment and caregiver support. More importantly, it gave students the confidence to project into their future roles as empathetic providers and identify strategies they will need in caring for dementia patients and caregivers. This significant impact on knowledge, attitudes and strategies for future practice was seen despite the fact that the majority of the respondents had previous formal experience as direct care workers with dementia patients. It supports the value of VR immersion as a training tool, not only for students, but also for current health care providers.

References

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UNE DataCap, a free service for institutions, was utilized for data collection with pre and post assessment.

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