# Evaluating the Virtual Dementia Tour with Undergraduate Nursing Students using the RE-AIM framework

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Introduction: As the U.S. population continues to age, the number of individuals living with Alzheimer's and age-related dementia is expected to rise sharply, with projections showing that more than 9 million Americans will be affected by 2030 and nearly 12 million by 2040. Nurses are at the forefront of this mission, and there is a pressing need to prepare them to meet the emotional, physical, and psychological needs of those with dementia. One innovative solution to this challenge is the Virtual Dementia Tour (VDT) simulation program. This immersive educational strategy is designed to help nursing students step into the shoes of those living with dementia, giving them a firsthand experience of the daily

Purpose The purpose of the pilot phase of this VDT program was to evaluate the feasibility, acceptability and preliminary efficacy of VDT delivered to undergraduate nursing students, using the RE-AIM Framework.

Methods Students in the accelerated pre-licensure program were given five simple tasks to complete during the VDT simulation. The VDT® experience lasted eight minutes; students were debriefed as a group. In this mixed methods study design, quantitative data from pre/post survey data examines student's experience and are analyzed using non-parametric Wilcoxon signed-rank test. Qualitative data from student narratives are analyzed to capture the emotional and subjective aspects of respondents' experiences
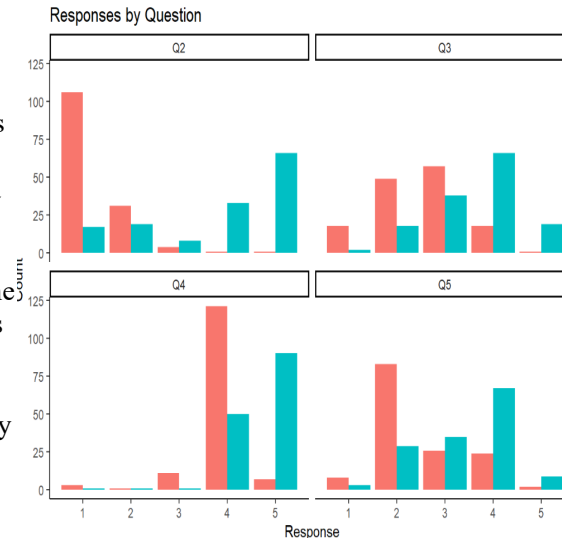
Results: A Wilcoxon signed-rank test was conducted to evaluate the differences between responses before and after the VDT experience. All statistical analyses were performed in R version 4.3.2. All responses with missing ids or ids without both a pre- and post- survey response were removed. This led to the inclusion of 143 individuals. The results indicated a significant difference from pre to post response ranging from (p-value <2,2e-16 to 5.84e-16). The median difference in responses is estimated to be 2.99, with 95% confidence interval (2.50, 3.00) to 2.99 (2.50, 3.00).

Content Analysis

Students reported a positive response to the VDT experience and that this experience enhanced empathy of the daily challenges that patients diagnosed with Alzheimers or age-related dementia experience.

Student responses:

I experienced how they feel every single day, from now on I will help them in any way that I can. And this improved my empath to them

It made me more empathetic to how people with dementia experience the world and makes it easier to understand their needs and concerns

As a future nurse I will be more empathetic to what patients with dementia are experiencing. I will give them grace and not get frustrated with them. This was a great experience.

Conclusion This pilot has demonstrated the benefit of the VDT experience to enhance nursing students' perception of the care needs of patients with dementia as well as the challenges faced by family caregiver and meets 4 of the 5 RE-AIM dimensions (Reach, effectiveness, adoption, and implementation). Future testing of the VDT experience will be in reaching health care communities for adoption and implementation.

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