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Abstract

Published 08/24/2022

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Development of a virtual reality simulation to examine and mitigate moral distress in healthcare workers: Design thinking and Delphi study

Mithusa Sivanathan ¹, Alvaro Uribe Quevedo ², Bill Kapralos ³, Venkat Bhat ⁴, Adam Dubrowski ¹

¹. Health Sciences, Ontario Tech University, Oshawa, CAN ². Software and Informatics Research Centre, Ontario Tech University, Oshawa, CAN ³. maxSIMhealth Group, Ontario Tech University, Oshawa, CAN ⁴. Psychiatry, St. Michael's Hospital, Toronto, CAN

Corresponding author: Mithusa Sivanathan, mithusa.sivanathan@ontariotechu.net**Categories:** Medical Education, Medical Simulation, Psychology**Keywords:** simulation based learning, psychiatry, psychology, virtual reality, simulation, moral injury, moral distress, mobile app, covid-19**How to cite this abstract**

Sivanathan M, Uribe Quevedo A, Kapralos B, et al. (August 24, 2022) Development of a virtual reality simulation to examine and mitigate moral distress in healthcare workers: Design thinking and Delphi study . Cureus 14(8): a815

Abstract

Clinicians are prone to suffer moral distress in high-stakes situations where their moral beliefs and values are betrayed or transgressed. As a result, this may negatively impact their capacity to provide adequate levels of care to patients. The research question that will be explored is: What are the fundamental factors for developing a virtual reality (VR) simulation to understand and mitigate moral distress in healthcare workers? To address this question, a combination of design thinking (DT) and a modified Delphi methodology with a group of 13 simulation specialists, VR developers, clinicians, and administrators provided the VR simulation needs that define the functional requirements. DT provided an opportunity to explore various areas in subgroups to identify ideas for the scenario, learning intervention, and assessments for the VR simulation. The use of brainstorming within DT provided several ideas, which were funneled into a three-round, Delphi study. Results from the study defined the foundations of the VR simulation. Average, standard deviations and free-text comments in the modified Delphi study were used to assess the inclusion of the produced requirements. The DT process produced 33 ideas for the VR simulation that served as a starting point to short-list the requirements in Delphi Round 1. During Rounds 1 to 2, items were removed, revised, and/or retained, resulting in 16 features to include in the final VR simulation by the end of Round 2. Round 2 also required specialists to provide abstracts of the VR simulation and five were submitted. In Round 3, specialists rated the abstracts as somewhat candidate to use as the final VR simulation, and the open feedback in this round proposed to combine the elements from each of the abstracts. Using this data, the final VR simulation was developed by a working group together with a VR design team. The methods described in this development will be used to guide a VR system which aims to help healthcare workers deal with moral distress. This methodology may be applied to the design of simulation training for other skills, thereby advancing the agenda in healthcare simulation.