Understanding Schizophrenia: A novel approach to medical education and psychiatric clinical training through the medium of virtual reality

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Introduction

Psychiatry proves to be one of the most difficult branches of medicine for medical students to understand. Inexperienced providers frequently find it challenging to empathize with patients with mental illness[1]. Virtual Reality (VR) has dramatically impacted efforts in healthcare education and offers unique and abstract methods of training[2]. Utilizing VR as a medium, third-year medical students can assume the role of a standardized patient while experiencing active symptoms of schizophrenia for a short time before being examined, as well as during an interview conducted by another third-year medical student acting as a physician. Each medical student stands to gain valuable experience and knowledge from the aspect of the medical provider, and as the patient seeking treatment.

Purpose/Hypothesis

We believe that this immersion will serve to positively influence students' perception of psychiatry, mental illness and cultivate empathy for patients afflicted by psychiatric conditions – specifically schizophrenia.

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Materials & Methods

Utilizing the Second Life[3] platform enabled the creation and control required to design the simulation. This platform allowed the patient to experience audible and visual hallucinations, which are not detectable to the physician-role during the mediated interview. The use of the Oculus Rift[4] serves to fully immerse the patient-role through restricting vision to only the virtual environment and providing lifelike control of vantage point. Binaural, directionally-relative audio was also being broadcast into the patient's headphones combined with the conversation with the physician. Visual and audible hallucinations were also designed to be relative to the patient-role's location in the virtual world, as a means of broadcasting thought projection. In alignment with our objectives, a reflective, summative evaluation was utilized to gather qualitative data regarding the immersion's effectiveness on learning and any alteration of student attitudes toward the subject matter.

Results

Thirty-two third year medical students have participated in the immersion and post-evaluation. All students consented and reported to be confident in conducting a psychiatric interview and diagnosing schizophrenia based upon core symptoms. In total, 97% of participants reported their participation provided perspective necessary to formulate an effective approach. All respondents reported the patient-role provided a greater understanding of the disease, increased empathy toward afflicted patients and fostered a greater appreciation for the complexities of interfacing with schizophrenic patients.

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Discussion

The most common way to accomplish metacognitive reflection is through prompting reflection as a means to improve outcomes, performance and critical thinking[5]. The creation of this immersion was intended to merit reflection by the learner, by first acting as a physician then as a patient. As a limitation, no comparable data was compiled prior to the event, nor was validation accomplished to determine the extent that self-regulated learning occurred. Although, a positive influence toward sought objectives was achieved and determined.

Conclusion

Preliminary use of this VR immersion proved to serve as metacognitive regulation through a two-part experience that prompted learner reflection. Evidence indicated learner perceptions were positively altered as a result of the experience, which fulfilled sought objectives.

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