

*Virtual Reality can improve nursing students' knowledge of hypoglycaemia; do students prefer immersive virtual reality to non-immersive virtual reality?*

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**Aims:** Previous research found that student nurses understanding of hypoglycaemia was improved following a non-immersive Virtual Reality (VR) hypoglycaemia simulation (2D accessed via laptop) when compared to traditional teaching methods. The aim of this study was to assess the effectiveness and student experience of the same simulation using immersive Virtual reality (3D VR headsets).

**Methods:** Second year adult and mental health nursing students were invited to participate in a VR simulation of a deteriorating patient. In this RCT, all students completed a pre-test; the non-immersive VR group used laptops or hand held devices (n = 83), the immersive group (n= 27) used VR headsets (low cost headsets) while controls (n = 88) completed a paper-based version. All groups completed a post-test. These tests were not completed concurrently.

**Results:** Baseline pre-testing results were similar between all groups. In assessing knowledge gain; the non- immersive VR group scored significantly higher than the immersive and control group. Students engaged positively with both formats of the VR simulation. Some students using the immersive VR experienced physical symptoms not felt by students using the non-immersive VR; 20% felt nauseous, and 30% felt dizzy while one student developed a headache.

**Conclusion:** Virtual reality simulation can be beneficial to support short-term knowledge gain when compared with traditional teaching methods. Immersive VR using headsets can result in distracting physical symptoms. The majority of students enjoyed the VR experience. Non-immersive virtual reality simulation is better tolerated and is also more accessible to a greater number of students.