

Simulation suite vs virtual reality: which simulated learning environment better prepares final year medical students for emergencies?

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Introduction

The ABCDE assessment is accepted by experts to improve outcomes in clinical emergencies. Therefore, medical students must learn this approach and apply it to unwell patients. Literature states students are under confident and underprepared which is detrimental to patient care. To safely practice, Simulation Suites (Sim) have a large evidence base in medical education, however, despite virtual reality (VR) being used in other professions (aviation, shipping and military), its evidence within medicine is limited and there is no data comparing both formats.

Materials and methods

We completed a cross-over study ABCDE of simulated unwell patients in both formats for final year medical students. We aimed to establish which simulation has better outcomes on student confidence and performance, alongside gathering qualitative feedback data regarding the advantages and disadvantages of both simulated learning environments. A total of 18 students were randomised between two equal groups: The 'Green' group completed Sim first and VR second, 'Purple' did VR first and Sim second. Students self-assessed confidence on a 1–5 scale and we calculated percentage scores from mark-schemes.

Results and discussion

Green confidence: Sim first T-test = 0.013349, VR second T-test = 0.002287, demonstrated significant increases after both. Purple confidence: VR first T-test = 0.0805162, Sim second T-test = 0.0133491, did not show significant increase in confidence after VR. Green percentage scores: Sim first and VR second T-test = 0.003117, showing significant increases in score. Purple percentage scores: VR first and Sim second T-test = 0.090423, did not show significant increases.

Conclusion

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Analysing the quantitative data (above) and qualitative feedback, we recommend using formats sequentially: providing Simulation Suite learning initially before supplementing revision with virtual reality to maximise student confidence and performance. ■