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# Immersive virtual patient simulation compared with traditional education for clinical reasoning: a pilot randomized controlled study

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## Résumé

**Background:** Immersive virtual patient simulation could help medical students in clinical reasoning, but there is a lack of literature on the effectiveness of this method in healthcare learning. **Method:** A pilot randomized controlled study compared performance (exam score) on a clinical case in immersive virtual simulation to a text for physiotherapy students. In the experimental group, the clinical case was presented by an interactive 360° video that students watched with a head-mounted display, whereas the control group used the text only. A survey investigated students' perceptions of the clinical case, their experience of virtual reality, and sense of presence. **Results:** Twenty-three students in immersive virtual reality had a significantly lower total score than 25 students with a text. This difference appeared in assessment part of clinical case. More precisely, it concerned patient history (including a few other elements of assessment and bio-psycho-social factors,  $p = 0.007$ ). Satisfaction and motivation were strong in the experimental group. **Conclusion:** While the students' exam scores were higher in text than in virtual reality, immersive virtual patient simulation remains an interesting tool for medical education. It will probably be necessary to adapt the pedagogical method (time, contents) so that this new teaching tool is considered as a complementary or even alternative method to traditional teaching.

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