

## BACKGROUND

- Artificial intelligence (AI) is on the rise across sectors including nursing education. Simulation is a natural specialty for the exploration of AI, being at the forefront of incorporation of technology in nursing education.
- Beginning with low-fidelity manikins, moving onto high-fidelity manikins, then innovating with virtual reality, AI is the next frontier in nursing simulation.
- As AI becomes more integrated in healthcare delivery, nursing education has a role in educating nursing students about uses, limitations, and concerns around AI.
- AI supports students' visual learning and engagement. Virtual reality (VR) using AI has also been evaluated to increase learning in interprofessional domains simulating various team members in VR simulation.

## PURPOSE

- The purpose of this literature review was to explore the role of AI in the three phases of simulation: prebriefing, facilitation, and debriefing/evaluation to support student learning.
- A review of the literature identified gaps in the use of AI in the three phases of simulation education as very few studies have been conducted.

## LITERATURE SEARCH STRATEGY

### Databases

- CINAHL
- ERIC
- Medline (EBSCOHost)
- PubMed
- Other
- Google Scholar

### Journal Hand Search

### Search Criteria

- Published in the last five years
- English language
- Peer-reviewed
- Research articles
- Scoping reviews, meta-analyses, systematic reviews

### Keywords and Key Terms

- Artificial intelligence, AI in healthcare simulation, simulation, nursing education, AI in nursing simulation
- 32 studies met the inclusion criteria.
  - 28 Quantitative
  - 1 Qualitative
  - 3 Reviews (2 Scoping, 1 Systematic)

## RESULTS

Current research has shown that the integration of AI has become prominent in nursing education and simulation education.

### The most common AI technologies:

- ChatGPT
- Virtual avatar apps
- Smartphones
- Predictive analytics
- Robots
- Virtual or augmented reality
  - voice-controlled
  - menu-based options

## CONCLUSION

- As the use of AI continues to grow in healthcare, there is a growing need to explore the use of AI in nursing simulation.
- AI was noted to improve student learning when utilized in simulations.
- AI has effectively enhanced student learning, particularly during facilitation and debriefing phases.
- Based on a review of 32 articles, 27 articles utilized readily available AI technology such as ChatGPT as a voice/text component, and only 5 articles used AI in the virtual format, incorporating both voice and physical interaction.
- Educators will need to explore the limitations of AI including ethical concerns, security and data privacy, financial affordability, sustainability, and technological support for use in learning environments.
- Nursing simulationists are at the forefront of using new technologies and should be the leaders in exploring this new pedagogical tool to enhance student learning.

## References

