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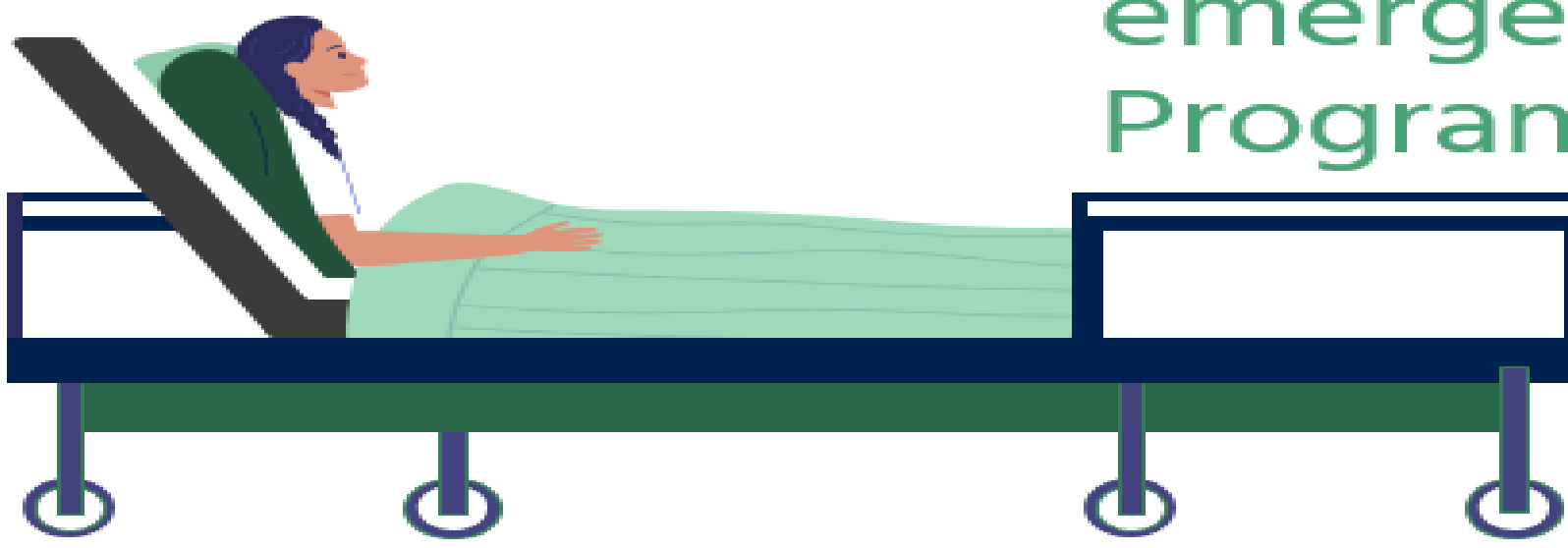
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Enhancing Pharmacology Learning through Inquiry-Based Simulation in Emergency Critical Care

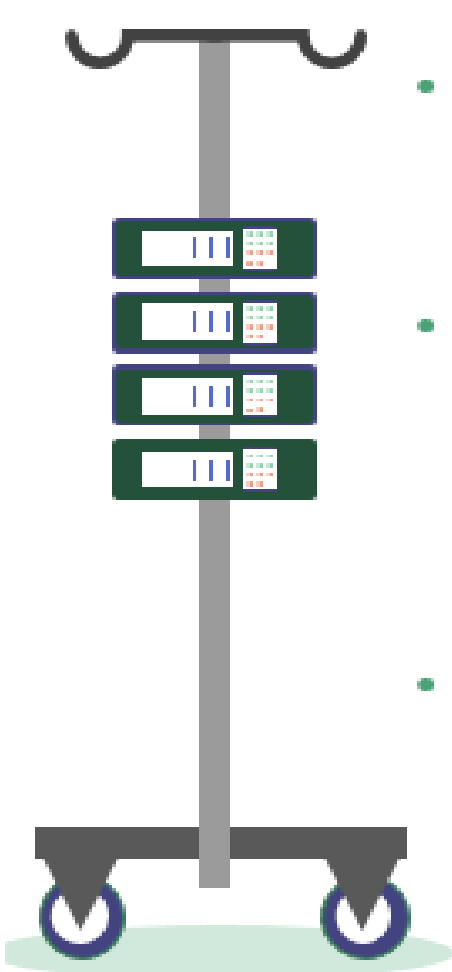
Overview



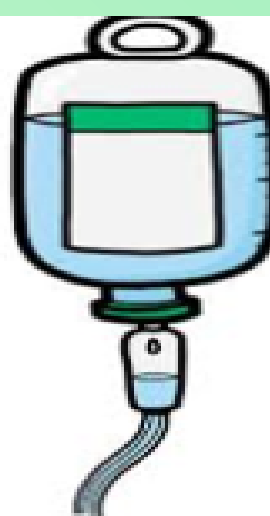
- This project examine how IBL in a simulation environment with student thinking can be successfully implemented in critical care emergency curriculum of the undergraduate Programme



Objective & Context



- To develop higher order of metacognitive skills, and to increase learning engagement
- To enhance students' knowledge and confidence in applying advanced pharmacology in emergency critical care patient management.
- To equip students with the knowledge, skills, and confidence to manage pharmacological interventions in emergency settings.



Theoretical Framework

Inquiry-Based Learning (IBL) in Nursing Education

An active learning approach where students explore real-world scenarios and construct knowledge through inquiry.

Benefits:

Enhances critical thinking, clinical reasoning, and problem-solving skills.

Application in Nursing:

Encourages students to seek solutions and apply evidence-based practice.

Rationale & Significance

Why use IBL in a simulation environment?

Traditional didactic learning does not adequately prepare students for emergency decision-making
Simulation environments allow students to practice decision-making, make mistakes, and learn without patient risk.

Urgency in Emergency Pharmacology

Critical care patients require immediate and precise medication interventions (e.g., managing shock or seizures).

Bridging Theory & Practice

The simulation environment enhances students' knowledge and confidence in applying advanced pharmacology in emergency critical care, while virtual pharmacist assistance helps nursing students identify and learn from their mistakes.



Theoretical Framework

Simulation Environment

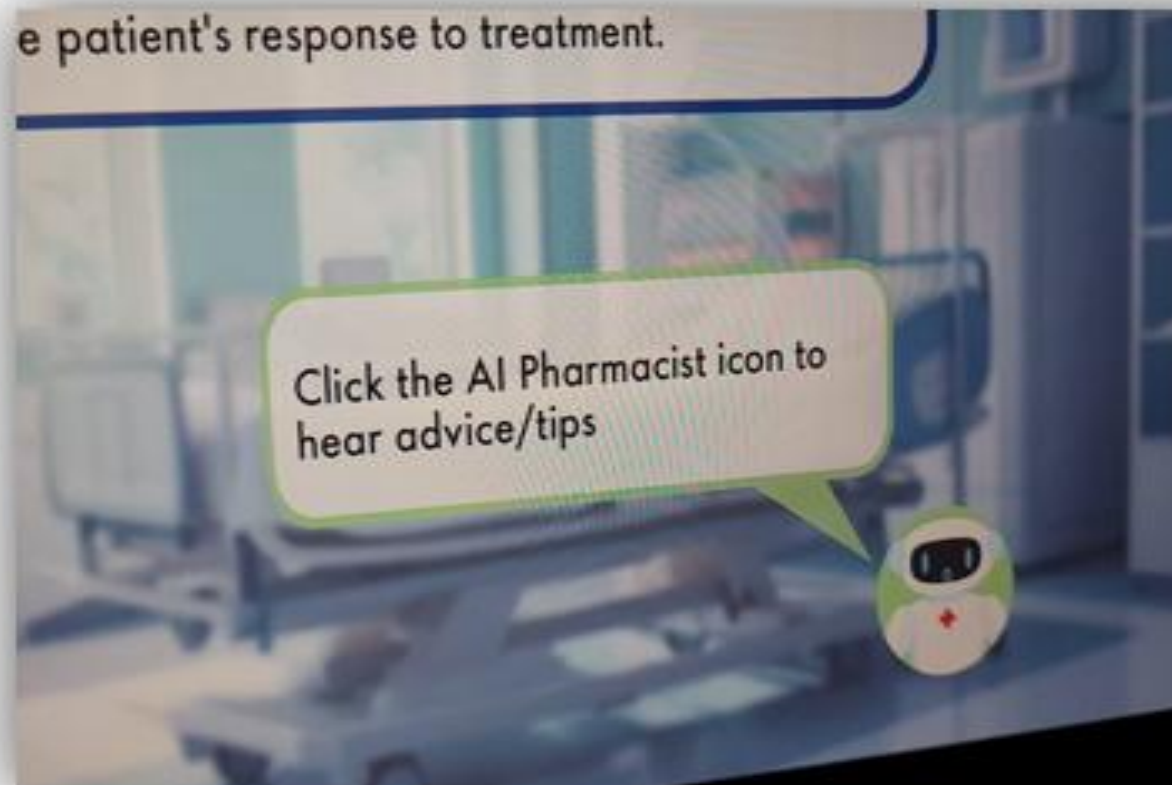
A controlled, simulation environment that replicates real-world emergency situations.

Benefits:

Safe space for practice, immediate feedback, and realistic patient interactions with 2D and 3D environments.

Technology Integration:

Virtual patients and virtual pharmacists, and interactive case-based simulations.



Thank you.
TDG Funding



Reflective Learning via Gibbs' Reflective Cycle

Step 4 - Analysis of Clinical Decision-Making

Key Factors Influencing Choices: Patient vital signs, many lab results, medication interactions.

Alternative Strategies: How different pharmacological choices might alter outcomes

Step 5 - Conclusion on Key Learnings

Major Takeaways: Effective medication use improves patient survival.

Recognizing Errors: Incorrect in dosing, drug contraindications, and learning from mistakes.

Step 6 - Action Plan for Future Practice

Improvement Strategies: Conduct self-directed, repeated simulation exercises to reinforce learning and enhance clinical decision-making skills.

Building Competency: Focused practice in high-risk pharmacology scenarios.

Reflective Learning via Gibbs' Reflective Cycle

Step 1 - Description of Experience

Student Actions: Assessing patient condition, selecting drugs, administering treatment.

Initial Challenges: Knowledge gaps, stress in decision-making, fear of mistakes.

Step 2 - Feelings & Emotional Response

Student Reflections: Anxiety in responding promptly.

Difficulty prioritizing care. learning: How emergency drugs act under critical conditions.

Positive Takeaways: Gaining confidence through simulation, improved situational awareness.

Step 3 - Evaluation of Performance

What Went Well? Drug selection accuracy, teamwork in emergency response.

Areas for Improvement: Managing uncertainty and providing appropriate nursing intervention.

Conclusion & Recommendations

- Takeaways: IBL-TSE bridges theoretical knowledge and practical skills.
- Future Directions: Expanding simulations to more critical care scenarios, integrating AI-driven case analysis.