Educational Strategies to Enhance Medication Knowledge
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Significance Statement
The implementation of additional educational strategies to undergraduate nursing curriculum may contribute to more knowledgeable and safe graduating nurses, leading to less medication error.

Key Methodology
A two-part study that assessed the traditional educational strategy of lecture and textbook. The first half was descriptive cross-sectional that examined characteristics of pharmacological education via a questionnaire. The second half was a cross-sectional correlation survey that received medication knowledge and calculation skill data from testing. A cluster randomized control trial assessed the technology educational strategy. The control group in the study received a traditional handout for learning, while the experimental group received an educational e-package that focused on medication calculation. A quasi-experimental longitudinal design study that consisted of two groups of students in a college’s pharmacology program. One group was the control group and received normal teaching strategies. The second group was the experimental group which received simulation experience based on medication administration skills.

A descriptive study design that used an electronic survey to learn more from the leaders of a college about their curriculum regarding medication reconciliation process.

Key Findings

• Traditional Educational Strategy (Lecture)
  • The basic pharmacological knowledge test resulted in a mean score of 57% for diploma students and 61% for bachelor’s degree students. The calculation test resulted in a mean score of 53% for diploma students and 66% for bachelor’s degree students. Students rated their own level of readiness for medication care on a scale of 1-10. 27% rated themselves a 5 or lower. Only 15% rated themselves an 8 or more.

• Technology Educational Strategy
  • Students involved in both cohorts were better able to perform drug calculations using the randomized e-learning package compared to receiving handouts (p = .027). Students using e-learning packages also reported greater confidence in their performance of drug calculations (p = .004).

• Pharmacology-Enhanced Simulation Educational Strategy
  • 94% of students strongly agreed that simulation benefited their learning of pharmacology concepts, skills, and knowledge. 95% agreed that simulation improved their medication administration safety.
  • Simulation positively affects medication administration safety practices.

• Medication Reconciliation Educational Strategy
  • 75% of education programs reported teaching medication reconciliation in the classroom. Only 52.8% of leaders identified they actually provide formal training on their hospital’s medication reconciliation policy.
  • Students did not consistently receive education on medication reconciliation in the classroom or clinical settings.

Key Practices Recommended

• Assess newly graduated nurses and undergraduate nursing students’ competence, confidence, and overall preparedness in regards to medication administration.

• Assess current pharmacology curriculum to determine effectiveness of educational strategies in regards to medication competence.

• Establish and define pharmacology curriculum expectations and mandatory inclusions.

• Promote inclusion of various educational strategies during undergraduate nursing programs and post-graduation for newly graduated nurses.

• Implementation of various education styles 1-4:
  • Simulation.
  • Interactive e-learning programs.
  • Clinical experiences.
  • Serial testing.

• Incorporate simulation-enhanced pharmacology education to promote patient centered care and safety.

• Implement interactive e-learning programs to improve student drug calculation as well as increase student satisfaction.

• Promote different opportunities within the clinical setting increase readiness for practice.

• Continuation of lecture with addition of serial testing supports increased competence and confidence in regards to medication administration.

References


Figure List