

Evaluating Prelicensure Nursing Student Ability to Prioritize Clinical Problems

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Abstract

Increasing patient complexity requires nurses to be able to identify and prioritize clinical problems accurately in order to provide appropriate and timely nursing care. Declines in new graduate nurses' clinical performance require nurse educators to develop new approaches to build and evaluate clinical judgment skills in students. The purpose of this project was to evaluate student ability to identify and prioritize high priority clinical problems in a complex multi-patient simulation while also determining the influence of a timeout intervention on accuracy. Students in the intervention group completed problem lists in greater numbers than control groups at Time 2 but with lesser accuracy. Further refinement of the activity and evaluation tools will further efforts to improve student ability to prioritize.



Background & Purpose

- Nursing education for prelicensure students is experiencing a paradigm shift that is placing more focus on achievement and demonstration of clinical judgment (Kavanagh & Sharpnack, 2021; NCSBN, 2019).
- The complexity of patient illness and nursing care continues to increase, while clinical performance of newly graduated nurses has demonstrated a decline over time (del Bueno, 2005; Kavanagh & Szweda, 2017).
- This project focused on the *analyze cues* and *prioritize hypotheses* steps of the clinical judgment model which involve identifying clinical problems and ranking them by importance (NCSBN, 2019).
- The purpose of this project was to:
 - Evaluate final-semester prelicensure nursing student ability to identify high priority clinical problems within a complex multi-patient simulated clinical experience
 - Determine if taking a 5-minute timeout (intervention) during the simulation influenced study ability to accurately identify high priority clinical problems using newly acquired patient information

Methods

During the Spring 2022 semester, prelicensure students enrolled in a final-semester clinical capstone course participated in a complex multi-patient simulated clinical experience focused on identifying high priority patient needs.

To prepare, students were instructed to review an online tutorial on the most common priority setting frameworks used in nursing, such as airway-breathing-circulation (ATI, 2022).

Groups of 14-16 students attended a prebriefing session to review learning objectives, priority setting frameworks, and logistics of the activity. Students then split into groups of 4-5 and were assigned to a room that contained 3 patients. Each room had 3 different patients.

Students received written handoff report on each patient, access to patients' charts in a simulated electronic health record, and patient-specific clinical problem lists. Each list contained 20 clinical problems, and students were instructed to select the top three highest priority problems (Time 1).

Problem lists were collected, and students reported to their assigned rooms for a ~45-minute simulation during which they provided patient care, including medication administration and wound care. Approximately halfway through the simulation, students were given problem lists and instructed to select the top three highest priority problems based on newest patient data (Time 2).

Approximately half of the groups were given a quiet 5-minute timeout to complete the second problem lists, while noise and distractions continued for the other groups.

Problem Lists

Using data for all 9 patients at Time 1 and Time 2, 9 patient-specific lists were created, reviewed, and ranked by faculty members. One faculty member created preliminary lists. A second faculty member reviewed the lists and added non- or low-priority problems so that each list contained 20 problems. Four additional faculty members rated each problem as *not a priority*, *low priority*, *medium priority*, or *high priority*. Ratings were converted to a numeric score of 1-4 respectively, and responses were averaged. Scores were ranked to identify highest priority clinical problems for each patient at each time point. Student choices of high priority problems were considered correct if they matched faculty rankings of high priority problems.

Room 1

- Patient 1
- Patient 2
- Patient 3

Room 2

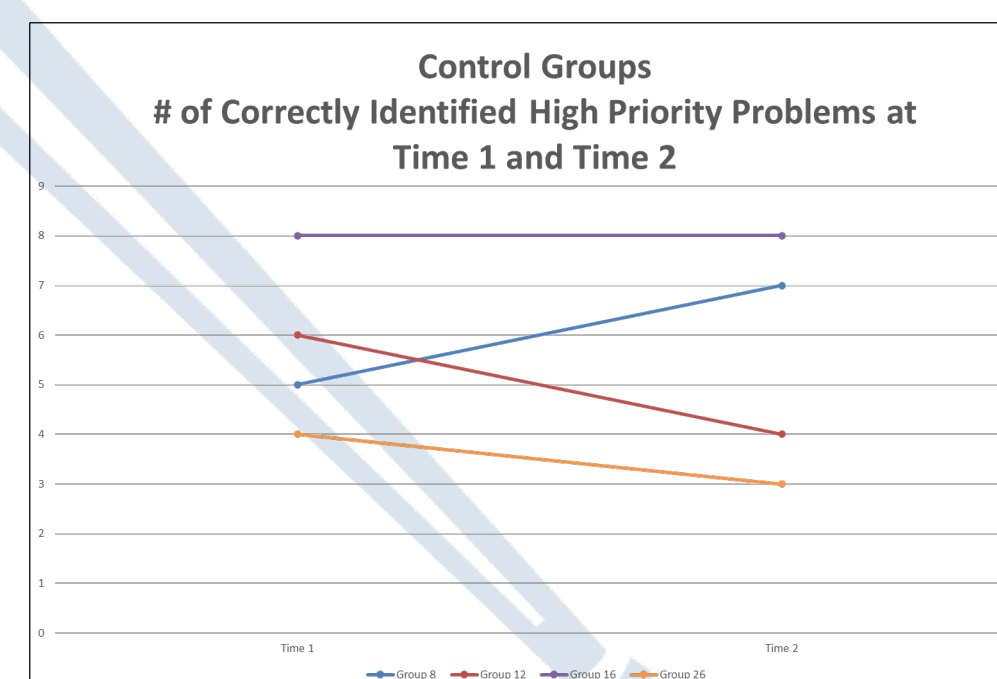
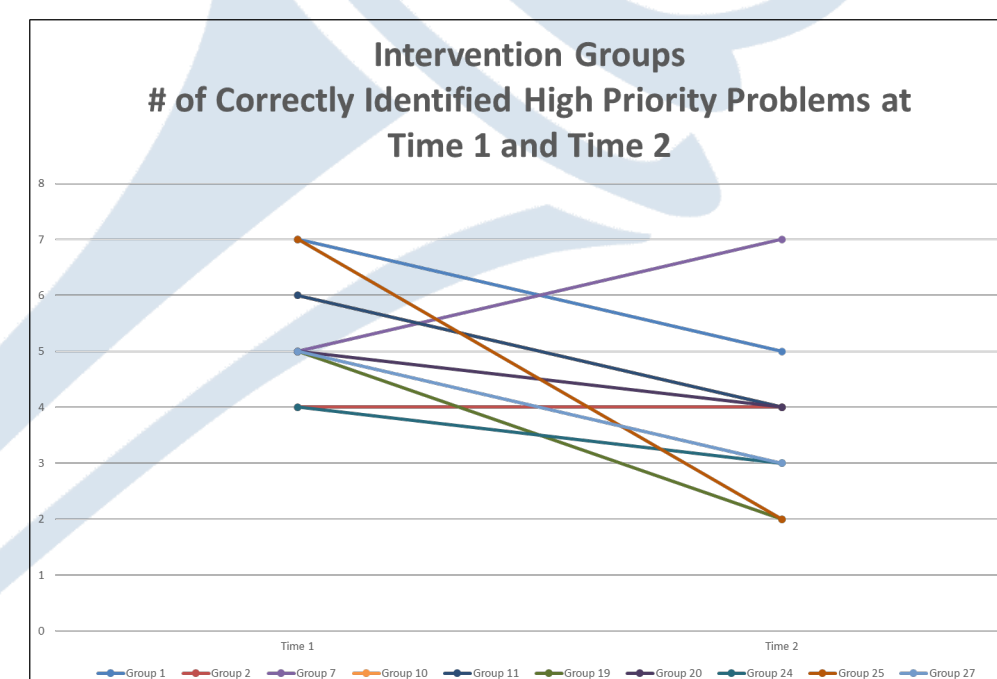
- Patient 4
- Patient 5
- Patient 6

Room 3

- Patient 7
- Patient 8
- Patient 9

Results

A total of 141 students participated in the simulation in 27 groups. At Time 1, correct student selection of high priority problems ranged 3-8 out of 9 possible, with a median of 5.27 and a mode of 5. Thirteen groups received the 5-minute timeout intervention at Time 2. Scores could not be tallied for three intervention groups and 10 control groups at Time 2 because the groups did not complete problem lists. For the remaining groups, correct selection of high priority problems at Time 2 ranged 2-7 for the intervention groups with a median of 3.8 and a mode of 4 and ranged 3-8 for the control groups with a median of 5.5 and no mode.



Conclusion

At Time 1, student accuracy of selecting high priority clinical problems for multiple patients from a provided list ranged 30-89%, with a median accuracy of 58.5%. At Time 2, accuracy for intervention groups decreased to a range of 22-78% and a median accuracy of 42%. Accuracy for control groups at Time 2 increased to a median of 61%; however, the majority (10/14) of control groups did not complete Time 2 problem lists, potentially indicating that groups were not able to focus on the task due to environmental stressors and distractions. With reduced environmental influences, intervention groups were able to complete the task with greater frequency but decreased accuracy for the most part.

Potential limitations of this study include:

- Limited faculty response to rate developed problem lists. Recruiting more faculty to review and rate lists may result in greater accuracy of ranking problems as high priority.
- Some patients may be more challenging than others. A comparison of student accuracy across patients may result in further understanding of student performance.
- Low completion rates for control groups at Time 2. Faculty may need to coach students more effectively to increase completion rates.
- Activity does not effectively gauge individual performance. The simulation is designed as a team activity, which may not directly translate to individual nursing practice.

References

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