BACKGROUND

Widely-used in academic and practice settings, simulation is an interactive, performance-based educational method designed to mimic patient situations. Student demonstration of assessment, communication, nursing psychomotor skills, and clinical reasoning is required.

Evaluation on the ability to resolve unexpected events and problems that occur while being observed by peers is part of simulation. Therefore, simulation activities in particular may generate a level of anxiety and cognitive interference in students that inhibits learning.

Simulation is a resource-intensive learning modality that needs to be done well to maximize positive outcomes. To better understand the impact that anxiety may have on students during this complex learning modality, this study explored the level and sources of student anxiety associated with simulation learning activities.

METHODS


Design and Participants: This was an exploratory, sequential, mixed-methods design comparing simulation anxiety in first and final semester nursing students (N=96) enrolled in a traditional nursing program in a Midwestern state.

Research Questions and Outcome Measures:
1. Is there a difference between levels of perceived simulation anxiety for students in the first and final semester as measured by a revised Westside [Simulation] Anxiety Scale?
2. What are sources of simulation anxiety identified by focus groups of first and final semester students?
3. For students in first and final semesters, is there a difference in identified causes of simulation anxiety as measured by the 24-item Elements of Simulation Survey Tool?

RESULTS

There was no significant difference in the overall level of anxiety experienced by first (n=58) and final (n=38) semester students (p = .09).

There were sources of anxiety that showed significant differences between the cohorts. See Figure 1.

Having the Title or Role of Primary Nurse produced the highest student anxiety, while having the role of Observer produced the lowest anxiety. See Figure 1.

PRACTICE IMPLICATIONS

Recommended evidence-based interventions to address sources of anxiety and cognitive interference are congruent with the International Nursing Association for Clinical Simulation and Learning (INACSL) Standards for student preparation and faculty training:

- Orientation to all aspects of simulation, including role expectations and placement of supplies.
- Separation of observers and faculty from those completing the simulation.
- Practice of clinical reasoning with patient scenarios in theory with meaningful pre-brief assignments.
- Evidence-based well-developed scenarios and training in pre-briefing/debriefing, technology, and media.
- Meaningful feedback and private reflection activities.
- Engagement and evaluation of all participants with etiquette expectations (respect, feedback delivery).
- Adequate resources for practice and repetition.
- Strategies to reduce stress versus anxiety.

RESEARCH IMPLICATIONS

The many sources of simulation anxiety invite ongoing research to identify effective interventions to decrease anxiety, improve learning outcomes, and to correlate anxiety with clinical performance.

CONCLUSION

High anxiety coupled with cognitive interference may limit the efficacy of simulation learning. Adequate preparation and training may reduce cognitive interference and anxiety produced by the unknown elements of the simulation environment.

Figure 1: Overall rank of anxiety-producing items (0 - no anxiety to 5 extremely high anxiety).