Students administering medications make errors and near misses; rarely are published rates available (Cooper, 2014). Nurses are expected to safely administer medications, but medication errors occur, and sometimes at alarming rates (Bush, Hueckel, Robinson, Seelinger & Molloy, 2015). Medication administration is a routine part of a nurse’s responsibility, thus teaching strategies that effectively prepare students for this task are essential. Nursing programs are content saturated, thus expanding the amount of time dedicated to medications is often not feasible. This participatory action research study solicited students’ and instructors’ reflections on factors that increased students’ learning and safety practices for medication administration. The impact of the clinical learning environment for student nurses learning to administer medications is an area that needs to be further explored (Sulosaari, Kajander, Hupli, Huupponen & Leino-Kilpi, 2012).

Methods

This research was guided by the Participatory Action Research (PAR) methodology and explored (1) teaching methods that promote student learning and safe medication administration, and (2) influences to student nurse medication errors and near misses. Student nurses and clinical instructors from years three and four of a Bachelor of Nursing program participated in this study. We used a concurrent mixed methods design, and collected data about safe medication administration and medication teaching and learning via questionnaires from students (n=77) and instructors (n=11) as well as an instructor focus group (n=3). Analysis was conducted using Mann-Whitney U tests for quantitative results. Thematic analysis and triangulation were used for qualitative findings.

Findings

Accounts of student and clinical instructor experiences in the clinical setting emphasized the significance of collaborative practice to safe medication administration by student nurses. Instructor

Students and instructors rated the clinical nursing instructor as having the most positive influence on patient safety and student learning. Students reported supportive instructors increased the chances of them asking for supervision and improved patient safety. Students found it helpful when the instructor had clear expectations, quizzed students about the medications and tested their knowledge.

Peers

The students reported peers as the second most positive influence on learning and safety. Talking to a peer about medications provided students an opportunity to think further about medications and to build their clinical reasoning and critical thinking. While clinical instructors considered peer interactions positive, they did not rank peer learning as highly as the students themselves did.

Staff nurses

Participants reported that the staff nurses have a positive impact on student learning and patient safety. The staff nurses were aware of contextual factors impacting medication requirements and helped the students to link concepts about the patient and the medication. While the instructors rated the staff nurses highly, concerns were stated about student nurses learning unsafe shortcuts. Poor communication between the student and the staff nurses was the leading cause of medication errors in the study.
Conclusion

Collaboration between the student and the instructor; the student and their peers; the student and the staff nurse; and the staff nurse and the instructor are all important to optimize student learning about medications and to enhance patient safety. Elements of the clinical environment that contribute to complexity for teachers and learners include noise, interruptions, communication challenges and time constraints. Medication administration is cognitively complex for students because they must integrate a developing knowledge about medications, the patient’s history, the patient’s current clinical situation and possibly changing condition and other factors to come to decisions about medications. During collaboration, instructors, peers and staff nurses can be the guide a student needs to make the cognitive connections required for learning for clinical decision making.

A lack of collaboration is associated with medication errors. If the student and the staff nurse have tension in their relationship resulting in poor communication, medication errors are more likely (Valdez, Guzman, & Escolar-Chua, 2012). Students are more likely to report an error if they do not fear a negative reaction from the clinical instructor (Gorgich, Barfroshan, Ghoreishi & Yaghoobi, 2016). Faculty development of supervision skills can increase dialog among clinical instructors (Perry & Koharchik, 2014). Valdez et al. (2012) stated "while the emphasis on knowledge of pharmacology and medication safety is essential, equal importance should be given to system failures that impact patient safety. Accordingly, interprofessional partnership should be encouraged so that staff nurses, clinical instructors and other members of the health care team can reinforce the link between theory and practice." (p. 225)

The close relationship with learning and patient safety demonstrates that improvement in student learning will have a direct benefit to patients in the short and long term. One strategy for improvement is to build on the current successes of collaboration and to close the gaps in collaboration that we have found leads to medication errors. Students utilize peers and staff nurses as important resources. Faculty members can build on these relationships by developing teaching strategies that formally and intentionally promote peer to peer and student to nurse collaboration. Transitioning the student from the clinical instructor as supervisor and educator to staff nurse or peer collaboration for medication administration may improve learning and patient safety. Promoting purposeful collaboration for students will also help to build a collaborative skill set to bring forward to future interprofessional practice opportunities.

Title:
Teaching Students to Administer Medications: Collaborative Supports Are Critical

Keywords:
medication administration, participatory action research and student nurses

References:


Abstract Summary:
Teaching methods promoting student learning and safe medication administration were explored in this participatory action research. Influences on medication errors and near misses were also examined. Data was collected through surveys and a focus group. Instructors, peers and staff nurses collaborating with students increased learning and patient safety.

Content Outline:
I. Introduction
   A. Medication administration a routine part of nursing practice—errors occur.
   B. Effective teaching for student nurses about medication administration has not been explored from a retrospective perspective of students and instructors.

II. Body
   A. A Participatory Action Research study exploring the learning and safety of medication administration by student nurses.
      1. Data collected through a survey and focus group from student nurses and instructors
      2. Quantitative and qualitative analysis completed
   B. Collaborative and supportive relationships were found most effective
      1. instructor to student
      2. peer to peer
      3. staff nurse to student

III. Conclusion
   A. A supportive environment between key stakeholders in the medication administration process allowed for safe learning.
   B. A lack of collaboration was associated with medication errors and near misses.

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**Author Summary:** Twyla Ens has a Bachelor of Science in Nursing from the University of Saskatchewan. Her clinical experience in cardiology spans a variety of settings including San Francisco, Calgary and Saskatoon, Canada. Medication is an important component of chronic disease treatment in cardiology and the focus of her masters work. She continues her exploration of medication in the academic setting with a focus on undergraduate students.