Teaching and Learning in Nursing (2014) 9, 37–42

Teaching and Learning in Nursing

www.jtln.org

Impact of faculty development sessions to increase faculty competency with supervision of medication administration in an associate degree program

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KEYWORDS:
Medication errors;
Faculty development;
Nursing students

Abstract To reduce medication administration errors by student nurses, this initiative focused on the education of clinical faculty in key areas of the medication process. Faculty development sessions addressed clinical supervision, Quality and Safety Education in Nursing, the rights of medication administration, and the impact of interruptions during the medication administration process. Outcomes indicate an increase in near-miss medication errors, indicating a need for further monitoring and faculty development.

1. Background of the problem

At an associate degree nursing program in Maryland, faculty became concerned when data analysis yielded 15 near-miss and three actual medication errors during the fall 2011 semester (J. Fritzges, personal communication, January 2012). The program changed several aspects of the didactic instruction related to medication administration, yet errors persisted. During the spring 2012 term, 10 near-miss and one actual medication error were reported. In addition, two faculty members bypassed patient safety processes, which likely caused medication errors during clinical experiences with nursing students. Faculty were unclear about the appropriate supervision and the educational approach to medication administration with nursing students during clinical experiences. The purpose of this article is to describe a process improvement project designed to decrease medication errors generated by student nurses in an associate degree nursing program.

The number of errors that nurses make during the medication administration process is disturbing; at least one medication error occurs per day per hospitalized patient (Finkelman & Kenner, 2007). Medication errors are preventable events that cause patient harm during the time the medication is in the control of the nurse; these include errors in transcribing, dispensing, administering, and monitoring of medications (National Coordinating Council for Medication Error Reporting & Prevention, 2012). Specifically, errors include wrong drug, strength, dose, patient, or route (Grasso, Rothschild, Jordan, & Jayaram, 2005; Institute for Safe Medication Practices, n.d). Errors that are recognized and prevented prior to the patient actually receiving the medication are termed *near-miss* errors (Reid-Searl, Moxham, & Happell, 2010).

To prevent future medication administration errors, it is crucial that nursing students learn safe medication practices. Because nursing is practice discipline, clinical nursing

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1557-3087/$ – see front matter
http://dx.doi.org/10.1016/j.teln.2013.09.002

education must focus on application of concepts learned in the classroom (Gaberson & Oermann, 2010). The nursing student must function as a learner during clinical experiences, not as the nurse (Gaberson & Oermann, 2010). During clinical experiences, nursing faculty must strictly supervise medication administration with nursing students. Medication administration errors should not occur in this context. A near-miss error should be approached as a teachable moment, a chance to prevent further errors by identification of the cause of the error. Near-miss errors do not cause patient harm; students will make near-miss errors during clinical experiences. Analysis of near-miss errors yields data to support improvement of system processes, supervision of nursing students, or revision of nursing curriculum (Committee on Data Standards for Patient Safety, 2004).

The Maryland Nurse Practice Act prescribes the qualifications of nursing faculty as "(a) be currently licensed as a registered nurse in Maryland; (b) be academically and professionally qualified; (c) maintain expertise appropriate to their teaching responsibilities; and (d) have a minimum of 2 years of clinical experience as a registered nurse" (Maryland Nurse Practice Act, 2008). At the school in question, all full-time nursing faculty have achieved master's degrees. The Maryland Nurse Practice Act does not require nursing faculty to complete any course work in educational theory, instructional design, or curriculum development; 2 of the 15 full-time faculty have completed courses in the scholarship of nursing education. The remainder of the full-time faculty is strong clinicians but lack formal education in the teaching of nursing. No part-time faculty member has completed course work in nursing education. A significant need exists for faculty development.

2. Literature review

Trends emerged from the literature on nursing student medication administration, including inexperience, performance, and knowledge deficit. Safety errors identified include omission of the medication or violations of the five rights (patient, time, route, medication, and dose) of medication administration.

Three studies evaluated nursing student medication administration errors from the safety perspective (Harding & Petrick, 2008; Sears, Goldsworthy, & Goodman, 2010; Wolf, Ambrose, & Dreher, 1996). Harding and Petrick (2008) completed a retrospective review focused on 77 reported errors with baccalaureate nursing students. Thirty percent of the errors were based on a violation of one of the rights of medication administration; 36% were found to be student inexperience in administering medications. Omission errors (not administering the medication to the patient) accounted for 34% of the errors. Wolf et al. (1996) conducted a descriptive, retrospective, secondary analysis study focusing on characteristics of medication administration errors made by nursing students. The authors reviewed reports entered into the United States Pharmacopeia MEDMARX, a database of medication errors and found 1,305 errors between January 1, 1999 and December 31, 2003 made by nursing students. Sixty-nine percent of the errors were violations of the five rights of administration, such as improper dose, wrong time, extra dose, wrong patient, unauthorized drug, and wrong route. Nineteen percent of the errors were omission errors. Sears et al.'s (2010) experimental study questioned the replacement of clinical hours with a simulated clinical experience in an effort to reduce the medication error rate. Although a reduction in the number of errors occurred in the simulation group compared with the clinical experience group, both groups had medication administration errors.

Four studies (Harding & Petrick, 2008; Krautscheid, Orton, Chorpenning, & Ryerson, 2011; Sears et al., 2010; Wolf et al., 1996) considered the causes of nursing student medication administration errors. Sears et al. (2010) conducted a study with nursing students in their second year of a baccalaureate nursing program. Volunteer students were randomly assigned to the treatment group (simulation replacing clinical) or the control group (traditional clinical experience). The study found the majority of errors related to knowledge deficit. Harding and Petrick (2008) noted that the cause of omission errors was inexperience in interpreting the medication administration record (MAR). Distractions during medication administration were also cited as reasons for errors. Wolf et al. (1996) studied 1,135 nursing student medication errors. Fifty-one percent of the errors were performance deficits such as inability to follow procedures, poor communication, and problems with system safeguards. Qualitative studies (Reid-Searl, Moxham, Walker, & Happell, 2010) focused on supervision of nursing students; 28 baccalaureate students in their final year discussed medication errors, which occurred during their nursing education. These nursing students reported the lack of direct supervision when medication administration errors occurred. The literature search uncovered no studies on medication administration errors with associate degree nursing students.

3. Purpose/Statement of problem

Prior to the fall of 2011, traditional lecture was the primary presentation method for students to learn about medication administration. Students were able to manually manipulate practice medications during the weekly open laboratory time; evaluation of their mastery consisted of a skills check sheet completed by faculty. Changes were made to the curriculum; instruction on medication administration using tactile practice sessions was taught in conjunction with a didactic presentation of critical concepts. Students had their own MAR and practice medications. They demonstrated each route of medication administration via a paired group exercise. There was a 1:10 faculty ratio during the supervised medication practice period. Additional