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Short Communication

Teaching Patient Safety in Undergraduate Nursing Education

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ABSTRACT

Background: Patient safety is the prevention of errors and adverse effects, to patients associated with health care.
Aim: To explore the initiatives of integrating patient safety as a core competence in the BSN curriculum in Oman.
Discussion: Nurse educators should be able to identify areas of safe nursing practice for patient classified in five sub-themes of Safety, Ethics, Communication, Thinking and Standards. Assessment and feedback of students is an important part of education.
Conclusion: It is important to communicate a safety vision and a sense of personal responsibility as a priority in the nursing education and practice. **Implication:** Nurse educators can integrate patient safety teaching and interprofessional collaborative practice nursing care in nursing education.

Key words: Teaching, patient safety, undergraduate nursing, students, curriculum, integrating

INTRODUCTION

Patient safety is the prevention of errors and adverse effects, to patients associated with health care (WHO 2010). It is alarming to note that in any given year more people die as a result of medical errors than from motor vehicle accidents, breast cancer, or acquired immune deficiency syndrome. One in 10 hospitalized patients experience adverse events due to preventable medical error (Brown, et al., 2010). Nursing care and patient outcomes are directly related. Nurses are a major workforce in the healthcare sector. Efficient and safe nursing care reduces morbidity and mortality. Nurses contribute to improved patient outcomes, reduced morbidity and mortality, reduced complications and errors, and reduced overall costs (Robnett, 2006). The Chicago-Tribune reports 1,720 deaths among hospital patients and 9,548 others have been injuries related to mistakes made by nurses across the country since 1995 (Associated Press, 9/10/2000).

Studies show that nurse staffing is closely linked to patient outcomes. Insufficient nurse staffing relates significantly to rates of nosocomial infections, patient mortality, patient falls, pressure ulcers, and rates of patient and family dissatisfaction. This leads to increases in adverse patient events, prolonged average hospital stay and total healthcare expenditures. (Liang et al., 2010). A small error in nursing care could result in a catastrophe for the patient. According to the report *Health Professions Education: A Bridge to Quality* (Greiner & Knebel, 2003), in the Institute of Medicine (IOM) shows that nurses and other health professionals are not adequately prepared to provide the highest quality and safest care possible. Regardless of the acute shortage of nurses globally, there is an acute need for a

culture of patient safety for improved outcomes.

World Health Organization's (WHO) multi-professional Patient Safety Curriculum Guide (WHO, 2011) states 'Patient safety skills and behaviors should begin as soon as a student enters a hospital, clinic or health service'. There is little evidence to show that undergraduate or postgraduate programs provide students with the skills necessary to examine patient safety issues as an integral part of their practice (Chenot & Daniel. 2010).These issues need to be addressed across the spectrum of educational curricula designed to prepare health care students for their future practice. The clear evidence of medical errors facing patients suggests that professionals are insufficiently prepared to control risks (Wakefield et al., 2005). They stated that the number of medical accidents involving nurses accounts for half of the medical accidents each year (Japan Council for Quality Health Care 2008).

Significance

WHO focus on patient safety curriculum in schools is to ensure a deliberate effort on the aspect that it is more important to be safe than to be correct. While measures to incorporate patient safety into the curriculum are in place, nurse educators who will directly be involved in implementing the curriculum need to be ready too. Nurse educators play a vital role in developing clinical reasoning and decision making skills that are essential for nurses to identify current or potential problems or risks that impact patient safety, besides teaching the theoretical basis for nursing actions and professional behaviors (Karen & Ballard, 2003).

The quality of nursing education is the Middle East is just gaining momentum in international nursing practice. The baccalaureate nursing program (BSN) at the College of Nursing in the Sultanate of Oman has Regular and the Nursing diploma graduate program with biomedical sciences and nursing specialties. The curriculum processes of this program are based on international standards and International Council of Nursing. The course content, teaching-learning activities are developed to achieve the learning outcomes. Student centered interactive teaching learning activities with focus on patient safety are used by nurse educators while implementing the curriculum. The paper refers to the teaching practices of the nurse educators involved in the theoretical instruction of nursing students in various clinical setting. This paper explores the initiatives of integrating patient safety as a core competence in the BSN curriculum in Oman.

DISCUSSION

The nurse educator has an important role in integrating culture of patient safety in the nursing curriculum. This includes developing learning experiences for patient safety in nursing courses to prepare safe nursing practitioners. The Quality and Safety Education for Nurses (QSEN) initiative has suggested a dramatic shift from a traditional content-based to a concept-based curriculum. Nurse educators need to identify core competencies essential for nursing students in the BSN curriculum. Table 1 highlights examples of integrating patient safety objectives and relevant teaching-learning activities utilized in a classroom, simulation lab or clinical unit in a few nursing courses in the BSN curriculum. Incorporating a culture of patient safety through student learning activities should include andragogic practice more than pedagogy (Chenot & Daniel 2010).Though learning take place in the classroom and laboratory, the greatest impact of nursing education takes place in the clinical practice. This being a complex work environment it is the ideal setting for students to interact with patients and healthcare professionals (Day & Smith, 2007).

Table 1. Examples of integration of patient safety objectives in a few nursing courses.

Nursing course	Objectives of patient safety	Teaching-learning activities
Introduction to Nursing (Theory)	Communicate observations or concerns related to hazards and errors to educators/ health care team.	1. Invite patients to attend class to describe their hospital experiences and how errors have affected their lives. 2. Group assignment to visit various units of a hospital and identify physical, chemical, electrical, fire hazards.
Fundamentals of Nursing(Lab)	Identify patients correctly. Discuss effective strategies to reduce reliance on memory.	1. Use of visual, verbal &verification method. 2. Use of protocols and checklist.
Adult Health Nursing(Clinical)	Reduce the risk of patient harm resulting from falls. Examine human factors and other basic safety design principles as well as commonly used unsafe practices.	1. Teach importance of initial risk assessment for fall and reassessment of patients when indicated by a change in patient condition, medication etc. 2. Ask students to identify unsafe practices and shortcuts in activities done in the ward such needle recapping, unsterile techniques, inadequate hand hygiene.
Child health Nursing(Clinical)	Reduce the risk of patient harm resulting from falls. Examine human factors and other basic safety design principles as well as commonly used unsafe practices (such as shortcuts and dangerous time-saving approaches)	1. Ask students to identify hazards in homes with children. 2. Identify all accidents among children and their reason as reported in emergency department of a hospital.
Nursing Administration (Clinical)	Describe factors that create a culture of safety (such as open communication strategies and organizational reporting systems).	1. Have students practice 4 steps of effective communication SBAR for effective handoffs. 2. Observe and evaluate teamwork, communication, and collaboration during inter professional rounds and when discussing with patients.
Mental health Nursing (Clinical)	Demonstrate effective use of strategies to reduce risk of harm to self or others.	1. Use case studies incorporating safety. 2. Complete an environmental safety scan of a clinical area and evaluate space and lighting adequacy, as well as accessibility for patients, families, and staff.
Maternity Nursing (Clinical)	Value vigilance and monitoring by patients, families and other members of the healthcare team.	1. Identification of newborns to mothers. 2. Dealing with pre-term babies in incubators, phototherapy units.
Critical care Nursing (Clinical)	Improve the safety of high alert medications. Reduce the risk of health care associated infections.	1. Students to evaluate safety measures such as double checking by two RNs. pharmacy involvement, documentation, accountability of senior nurses. 2. Participation in open day on infection control.
Community health Nursing (Clinical)	Communicate observations or concerns related to hazards and errors to patients, families.	Use a complex set of discharge medication orders and ask students to set up a schedule for medication for patient at home.
Advanced Clinical Nursing course	1. Engage in root cause analysis rather than blaming when errors or near misses occur. 2. Value own role in preventing errors.	1. Have students complete a root cause analysis(RCA) using case scenarios and develop evidence-based care plans based on identified root causes. For e.g. retrospective analysis of an error in administering a telephonic order of medication. 2. Attend a Root Cause Analysis and/or a Failure Mode Effects Analysis meeting.

Teaching the highest and the safest practice has always been the goal of nurse educators, but unfortunately, there is often a gap between the educational preparation of nursing students and their ability to provide safe patient care (Day & Smith, 2007). It is mandatory to introduce patient safety competency early in the curriculum and it should be emphasized during the intermediate and advanced phases of the curriculum. Best practice is to introduce the concept of patient safety in the basic courses in the nursing curriculum like Introduction to Nursing or Fundamentals of Nursing courses (e.g. patient identification) and learning about areas and guideline of patient safety before actual clinical practice in the intermediate (Adult Health) and advanced (Critical Care and Advanced Clinical Nursing) courses. As the quality of care and care outcomes is now integrated as a performance metric in health care agencies, it is essential that nurse educators prepare students with the knowledge, skills, and attitudes to meet these performance standards. First of all,

creating awareness among students regarding patient safety is important. Nurse Educators aim to teach students when and how patient safety knowledge can realistically be applied in practice. Explaining or integrating the potential areas of unsafe practice in every clinical course is important. Nurse educators (NE) should be able to identify areas of safe nursing practice for patient classified in five sub-themes of Safety, Ethics, Communication, Thinking and Standards (Tanicala, et al., 2011).

A. Safety: Clarifiers for this sub-theme include actual errors, inability to predict outcomes and near misses (Tanicala et al., 2011). Examples of these are error in patient identification, lack of aseptic techniques while handling central lines and, immuno-compromised patients, not washing hands, lack of infection control, causing patients to fall, unsafe handling of equipment, improper handling of sharp objects and needles, omission of major scientific steps in nursing procedures such as not checking nasogastric tube placement before each feeding, not checking pulse, blood pressure, blood sugar as required, leaving vulnerable patients unattended.

B. Ethics: Lying or falsifying documentation or not seeking assistance when needed (Tanicala et al., 2011). Examples include: unprofessional behavior and attitude, and documenting when activity not done.

C. Communication: Communication issues include quality of written communication, inappropriate interactions with patients and uncaring behaviors towards patients (Tanicala et al., 2011).They could be breach of confidentiality of patient information, failing to report on suicidal ideation of patients, verbal abuse of patients, and error in communicating significant information in documentation / reporting, communicating the unwanted or going beyond the scope of what is allowed by the profession.

D. Thinking: The ability to look at the whole picture, blending theory and practice and think critically in the decision-making process, insufficient knowledge base such as pathophysiology, medications. (Tanicala et al., 2011)Errors may include the inability to put knowledge together, inability to make clinical decisions by critically putting together theory and practice about the type of care to be given for the patient, such as patient with low blood pressure being asked to walk or telling the patient to walk to the bathroom after giving premedication.

E. Standards (Course and Profession): includes clinical preparation, agency policies, fluid and dosage calculation (Tanicala et al.,2011) such as lack of knowledge regarding action or effects of medications, medication administration errors in the 9 rights (Right Patient, Right Drug, Right Route, Right Time, Right Dose, Right Documentation, Right Action, Right Form and Right Response), not adhering to the hospital policies when performing any procedures (e.g. improper disposal of infected materials, leaving the sterile field unattended, etc. and practicing beyond the scope of practice.

Nurse educators are expected to anticipate safety risks for patients and prevent students from causing harm to patients in the clinical arena. Allowing students to take independent responsibility for patient care to a certain extent in some way, such as in preparing medications or documenting vital signs or informing assessment findings will be an opportunity for assessing their safe practice. When a student's behavior or behaviors pose a threat to patient safety, that student may be subjected to a penalty or a failing grade in the clinical nursing course. They need to be fair when dealing with unsafe student behavior in the clinical course (Scanlan et al., 2001). Student-based errors related to patient safety may be corrected through individualized and student-centered remediation (Gregory, et al., 2007). Clinical assignments like case studies, reflective journals are used to analyze safe practice and share evidence for knowledge content.

CONCLUSION

Assessment and feedback of students is an important part of education. However, the entire approach to teaching patient safety to students requires a metamorphosis in the educators' approach (Bargagliotti & Lancaster, 2007). It is the professional responsibility of nurse educators, as gatekeepers, to determine which nursing students are able to think and function professionally in clinical courses and which are not (Killam et al., 2010). Nursing undergraduates can become competent and safe professionals by being immersed in real life setting and clinical practice. Such learning in high-risk situations, requires supportive learning environments provided by the nurse educator who are prepared adequately for this task. Nurse educators are strategically placed to help erring students by recognizing the dangers of the student becoming a 'second victim'. They must seek to promote student learning by appreciating the complexity of healthcare situations and direct the student to seek counsel (Sherwood & Drenkard, 2007). They must take care not to demoralize students with undue emphasis on risk, errors and patient harm (Debourgh, 2012).It is important to remind students of the success of the majority of patient care episodes. When students are actively involved as contributing members of the multidisciplinary healthcare team, they learn about patient safety and quality standards, their role and responsibilities, and their potential influence and impact on patient care outcomes.

Recommendations

Integrating safety competencies into job descriptions and performance evaluations for clinical faculty who teach students in educational and hospital settings is mandatory (Sherwood & Drenkard, 2007). Nurse educators must attend practice setting courses, conferences, grand rounds, and in-service education on patient safety to keep abreast of new terms, practice developments, and key strategies (Sherwood & Drenkard, 2007). Instruction should be aligned in the academic setting with the practices and priorities of clinical setting (Girdley, et al., 2009). Student data related to adverse events, near misses, and documented error on units that are collected, aggregated, analyzed and acted on by nurse educators in partnership should be on record with clinical units (Barnsteiner, 2011). Nurse educators should assume the responsibility of being role models and set the right standards of practice in novice student nurses. Faculty induction and continuing nursing education programs should be directed towards enhancing integration of patient safety in the curriculum. It is important to be able to interpret research results on errors and adverse events as an impetus to action. Incorporating reflective exercises on patient safety into clinical post conferences is also important (Sherwood & Drenkard, 2007).

Nurse educators must be included on the hospital unit email lists for practice updates about new safety protocols. The efficacy of various teaching learning strategies for developing safety competencies need to be evaluated (Sherwood & Drenkard, 2007). Continuing nursing education is essential for nurse educators to help them bring effective curricular change. An error/near miss/adverse incident reporting system should be put in place to help nurse educators document such errors (Bargagliotti & Lancaster,2007). Nurse educators should constantly challenge students to identify the barriers that contributed to the necessity for shortcuts and to consider potential solutions to avoid workarounds when nurses in practice use time-saving approaches that deviate from written standards which may place patients, co-workers, or nurses at risk for injury (Sherwood & Drenkard, 2007). Another administrative measure to update Nurse Educators is addressing discontinuities between the educational and practice sectors (Barnsteiner, 2011). It is imperative to communicate a safety vision and a sense of personal responsibility for ensuring that systematic planning for addressing errors is a priority in the future professional practice of both educators and students. (WHO, 2011).

Authorship

SB, RV, and MSD provide substantial contributions to the conception, acquisition of concepts, drafting the article, revising it critically for important intellectual content and agreed on the final version of the paper to be published. Shreedevi Balachandran (SB),

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