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Exploring the influence of workplace supports and relationships on safe medication practice: A pilot study of Australian graduate nurses

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SUMMARY

Background: Despite the growing awareness of the benefits of positive workplace climates, unsupportive and disruptive workplace behaviours are widespread in health care organisations. Recent graduate nurses, who are often new to a workplace, are particularly vulnerable in unsupportive climates, and are also recognised to be at higher risk for medication errors.
Objectives: Investigate the association between workplace supports and relationships and safe medication practice among graduate nurses.
Design and Participants: Exploratory study using quantitative survey with a convenience sample of 58 nursing graduates in two Australian States.
Methods: Online survey focused on graduates' self-reported medication errors, safe medication practice and the nature of workplace supports and relationships.
Results: Spearman's correlations identified that unsupportive workplace relationships were inversely related to graduate nurse medication errors and erosion of safe medication practices, while supportive Nurse Unit Manager and supportive work team relationships positively influenced safe medication practice among graduates.
Conclusions: Workplace supports and relationships are potentially both the cause and solution to graduate nurse medication errors and safe medication practices. The findings develop further understanding about the impact of unsupportive and disruptive behaviours on patient safety and draw attention to the importance of undergraduate and continuing education strategies that promote positive workplace behaviours and graduate resilience.

Introduction

Globally medication errors are one of the more frequent yet preventable errors occurring in healthcare settings. According to the Australian Commission on Safety and Quality in Health Care (ACSQHC, 2012), one in ten healthcare recipients are harmed as a result of errors, including medication errors. Medication errors are capable of causing significant morbidity and mortality, and also have substantial economic implications (James, 2013; Roughead and Semple, 2009a). In the United States, medical errors (inclusive of medication errors) are the third leading cause of death within hospitals, costing an estimated $17–$30 billion a year (James, 2013). Similarly, in Australia, medication errors are the second most frequently reported incident occurring in hospitals after falls, costing approximately $660 million on an annual basis (Roughead and Semple, 2009a,b).

Although many healthcare professionals may commit or contribute to medication errors, nurses are more susceptible to making errors as they spend close to half of their work time administering medications (Runciman et al., 2003). Furthermore, nurses are vital in preventing medication errors as they are generally accepted to be the last healthcare professional to intercept any errors before administration (Flynn et al., 2012). Hyman and Silver (2005) postulate that high rates of healthcare errors are unavoidable. However, others argue that the leading forms of medication error stem from human fallibility, particularly among graduate nurses who are inexperienced clinicians (Ebright et al., 2004; Smith and Crawford, 2003). Graduate nurses may be more predisposed to making medication errors as they lack familiarity with the work environment, and are still developing the competence to problem solve and identify any discrepancies in medication orders (Saintsing et al., 2011).

Background/Literature

Studies have associated graduate nurses' lack of clinical confidence, emerging competence and ability to think critically and work independently in implementing safe medication practices as root causes of

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medication errors (Ebright et al., 2004; Saintsing et al., 2011). Other studies have reported inadequate medication knowledge, poor organisational skills, exposure to new situations, inability to correctly follow physician orders and poor time management, as factors that can contribute to medication errors among graduate nurses (Berkow et al., 2008; Ebright et al., 2004; Fasolino and Snyder, 2012).

For graduate nurses to successfully transition from the university setting into the clinical arena, these novice nurses require guidance, acknowledgement and mentorship from their colleagues (Johnstone et al., 2008; Laschinger et al., 2009). This in itself identifies that graduate nurses need reassurance and a safe environment. Despite the supportive nature of many workplace relationships, there are still workplaces characterised by high rates of incivility, bullying, and hostile behaviours which disrupt workplace relationships and safe care delivery. This hostility and disruptive behaviour may be more likely directed towards the newer members of the team, such as graduate nurses, impacting on their ability to work confidently and their desire to continue in the same profession. The turnover rate for newly graduated nurses in the USA ranges between 18.1 and 61% (Brewer et al., 2012; Winter-Collins and McDaniel, 2000) with approximately 60% of graduate nurses leaving their position within the first six months because of exposure to disruptive workplace behaviours (Winter-Collins and McDaniel, 2000). In Australia, limited studies are available that have examined graduate nurse turnover rates (Eley et al., 2010) with one recent report identifying 11.8% of graduate nurses intending to work overseas in the next 12 months (Huntington et al., 2012).

Importantly, exposure to disruptive behaviours may prevent graduate nurses from asking questions and acquiring necessary clinical knowledge to engage in safe practice (Feng and Tsai, 2012). Further, it is said that the custom of "naming, blaming and shaming" (Johnstone and Kanitsaki, 2008, p. 368) within the nursing profession reflects unsupportive workplace climates. Drawing attention to the impact of hostile interactions with colleagues, an Australian study reported that two thirds of the nurses in the study (n = 2407) made healthcare errors when upset over experiencing such behaviours (Farrell et al., 2006). Similarly, a survey undertaken in the USA (n = 2846) by Rosenstein and O'Daniel (2008) reported that 71% of nurses studied identified that disruptive behaviours from colleagues such as a raised voice, disrespectful interaction, insults and berating in front of peers and patients, contributed to errors, with 27% reporting disruptive behaviour was linked with patient mortality and 18% witnessing at least one mistake being made as a consequence of intimidation from physicians or other nurses. The 2004 Institute of Safe Medication Practice (ISMP) report revealed that in a study of 2095 healthcare professionals, intimidation influenced patient care by affecting the way clinicians clarified medication orders (ISMP, 2004). Drawing upon these studies it has been asserted that supportive workplace relationships enhance safe medication practice while uncivil, hostile or disruptive workplace relationships increase the likelihood of medication errors (The Joint Commission on Accreditation of Healthcare Organisations, 2008).

The nature of workplace relationships has also been recognised to influence the safety climate in healthcare organisations (Moore and McAuliffe, 2012; Rosenstein and O'Daniel, 2005). Supportive workplace relationships, characterised by respect and willingness to listen flourish in environments that promote effective collaboration, recognition of others, and effective decision making (Fontaine et al., 2012; Walker et al., 2013). Rosenstein and O'Daniel (2005) reported that disruptive behaviours have a negative effect on workplace communication, concentration, collaboration and workplace relationships. Further, in a survey of physicians and nurses Rosenstein (2002) reported that disruptive physician behaviour influences nurses' work practices, including their attitude towards patient care and team work. In 2012, a similar survey of 370 nurses and doctors found that disruptive physician behaviours directly impacted on patient care by affecting nurses' efficiency, accuracy, safety and outcomes of care (Rosenstein and Naylor, 2012).

Considering the aforementioned literature, the primary aim for this exploratory study was to examine graduates self-reported medication errors and establish whether the nature of workplace supports and relationships were associated with medication errors or safe medication practices. To guide the study the following questions were developed.

1: What is the nature and extent of graduate nurses medication errors and safe medication practices?
2: What is the nature of graduate nurses reporting of medication errors?
3: What is the nature of graduate nurse workplace supports and workplace relationships?
4: What is the relationship between graduates' experience of workplace supports and relationships, and, are these factors associated with medication errors or safe medication practice?

Methods

Reported here is the descriptive quantitative stage of a larger sequential mixed methods study. As little is known about the influence of workplace supports and relationships on graduate nurse medication errors, and a number of the variables in this study required newly developed measures, a survey based exploratory and descriptive research design was employed. This design provided the opportunity to refine a number of new measures and establish conceptual and operational understandings of the variables of interest (Clark-Carter, 2009; Munro, 2006). Thus providing a contextual understanding of the phenomenon and laying the foundations for developing hypothesis for further testing in subsequent stages of the study.

For the purpose of the first descriptive survey stage of the study the description of medication error was adopted from The National Council for Medication Error Reporting and Prevention (NCC-MERP), which defines medication errors as *any errors or omissions that are a preventable event that may cause or lead to inappropriate medication use or patient harm* (NCC-MERP, 2006, p.1). Also, nurses who were eligible for participation in this study had to fit the description of *recent graduate*, which was defined as a registered nurse who is within the first 18–24 months of clinical practice following completion of a nursing degree. The framework used to direct this study was the principles and guidelines of the Human Research Ethics Committee's (HREC) Code of Conduct for research. This study was approved by the relevant HREC in regards to the ethical protection of human subjects prior to the commencement of this study.

Survey Instrument

In developing the survey instrument, initially a search of published peer-reviewed manuscripts in five electronic data bases (CINAHL, Medline, Cochrane Proquest, and Pub med) was undertaken for the years 2004–2012. This search sought to identify existing suitable instruments and studies depicting the nature of workplace supports and relationships that may influence graduate nurse medication errors and safe medication practices, as well as measures of the nursing workplace and disruptive and supportive workplace behaviours. As no valid and reliable instrument was available at the time of the study suited to measuring the variables of interests, the authors developed a questionnaire largely drawn from the review of the literature. A small number of items were included from validated instruments focused on disruptive workplace behaviours and supervisory support and empowerment. The final survey contained 86 items that sought to identify the nature of medication errors, reporting of errors and safe medication practices and the nature of workplace supports and relationships.

Prior to using the survey instrument, the face validity of the instrument was established through review by an expert panel of nurse academics knowledgeable in instrument development, healthcare quality and safety, and workplace behaviours. The main objective of this