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Self-reported confidence in patient safety knowledge among Australian undergraduate nursing students: A multi-site cross-sectional survey study☆

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ABSTRACT

Background: Patient safety is critical to the provision of quality health care and thus is an essential component of nurse education.
Objective: To describe first, second and third year Australian undergraduate nursing students' confidence in patient safety knowledge acquired in the classroom and clinical settings across the three years of the undergraduate nursing program.
Design: A cross-sectional online survey conducted in 2015.
Setting: Seven Australian universities with campuses across three states (Queensland, New South Wales, South Australia).
Participants: A total of 1319 Australian undergraduate nursing students.
Methods: Participants were surveyed using the 31-item Health Professional Education in Patient Safety Survey (H-PEPSS). Descriptive statistics summarised the sample and survey responses. Paired *t*-tests, ANOVA and generalized-estimating-equations models were used to compare responses across learning settings (classroom and clinical), and year of nursing course.
Results: Participants were most confident in their learning of clinical safety skills and least confident in learning about the sociocultural dimensions of working in teams with other health professionals, managing safety risks and understanding human and environmental factors. Only 59% of students felt confident they could approach someone engaging in unsafe practice, 75% of students agreed it was difficult to question the decisions or actions of those with more authority, and 78% were concerned they would face disciplinary action if they made a serious error. One patient safety subscale, *Recognising and responding to remove immediate safety risks*, was rated significantly higher by third year nursing students than by first and second year students. Two broader aspects of patient safety scales, *Consistency in how patient safety issues are dealt with by different preceptors*, and *System aspects of patient safety are well covered in our program*, were rated significantly higher by first year nursing students than by second and third year students. One scale, *Understanding that reporting adverse events and close calls can lead to change and can reduce recurrence of events*, was rated significantly higher by third year students than first and second year students.
Conclusions: In order are to achieve meaningful improvements in patient safety, and create harm free

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environments for patients, it is crucial that nursing students develop confidence communicating with others to improve patient safety, particularly in the areas of challenging poor practice, and recognising, responding to and disclosing adverse events, including errors and near misses.

What is already known about the topic?

- Patient safety continues to be a serious and significant international public health issue.
- Patient safety is critical to the provision of quality health care, and should be a central component of undergraduate nurse education. However, there is limited research exploring undergraduate nursing students' confidence and competence with patient safety issues and adverse events.
- Current educational strategies revolve around modifying curricula to embed a patient safety agenda but there are few published examples for how to achieve this.

What this paper adds?

- Nursing students were most confident with the tangible aspects of patient safety and least confident with sociocultural aspects of patient safety.
- Nursing students had difficulty questioning the decisions and actions of others in positions of authority and feared disciplinary action if they disclosed an error.
- Nursing curricula should be designed to ensure that graduates are prepared to contribute to safe, harm free clinical environments.

1. Introduction

Patient safety continues to be a serious and significant international public health issue (Waterson, 2014). Increasing awareness of the complexity associated with reducing adverse events and harm to patients has resulted in a focus of concern and attention on patient safety among health care providers and health profession educators globally (World Health Organization (WHO), 2009a). Adverse events are defined as unintentional injury or complication resulting from an episode of health care, and include medication errors, falls resulting in injuries, pressure injuries, problems with medical devices and infections (World Health Organization (WHO), 2009b). Estimates of current prevalence vary, but it is widely considered that up to 10% of hospitalised patients suffer some form of unintentional harm or an adverse event; with most deemed preventable (World Health Organization (WHO), 2009b; D'Amour et al., 2014; NHS Scotland, 2016; Australian Institute of Health and Welfare (AIHW), 2016).

Recognition of health care environments as being potentially harmful to patients has been acknowledged as a problem for many years. Writing in 1859, Florence Nightingale noted that "It may seem a strange principle to enunciate as the very first requirement in a hospital – that it should do the sick no harm" (Nightingale, 1859). In the United States (US), preventable hospital errors have been identified as the third leading cause of death (Makary and Daniel, 2016). The US National Patient Safety Foundation (National Patient Safety Foundation (NPSF), 2015) recently noted that 'the health care system continues to operate with a low degree of reliability, meaning that patients frequently experience harms that could have been prevented or mitigated'. In the Australian context, a study of Victorian hospitals in 2003–04 reported a rate of 7% of episodes of care had a least one adverse event, increasing the length of hospital stay and risk of death, and costing over $430 million annually, representing nearly 16% of expenditure on direct hospital costs (Ehsani et al., 2006). Healthcare providers have a responsibility to ensure that the care provided to patients is safe and aligns with best practice and established clinical standards (Australian Commission on Safety and Quality in Health Care, 2010).

Many adverse events experienced by patients are associated with nursing care, defined as the services provided by nurses for the benefit of the patient (Dubois et al., 2013). Given their proximity to patients and centrality to patient care, nurses fulfil a vital safety role and have the potential to detect errors, omissions and risk before harm eventuates.

Organisational conditions such as staffing, organisation of work and the work environment can affect how nursing care is provided and is a critical factor in determining patient outcomes (Dubois et al., 2013). Care provision in terms of nursing inputs and interventions are linked to safety-related outcomes including falls, medication administration errors and pressure injuries (Dubois et al., 2013). Patient safety strategies are continuously designed, tested and implemented in clinical settings, and in this process, the role of nurses is considered a key factor and their patient safety education has become fundamental (Alfredsdottir and Bjornsdottir, 2008; Slater et al., 2012; Mansour 2014). The capacity to give voice to concerns is a fundamental component of this patient safety function (Fagan et al., 2016).

It is important that graduate nurses hold sufficient knowledge to recognise potential safety risks and the confidence to protect patients from potential harms or errors and avoidable injuries. Thus, nurse education providers have a critical role in the development of the skills, knowledge and attitudes required of graduates to ensure they are well prepared to provide a safe environment for the patients in their care (Mansour, 2013; Francis, 2013). Nursing curricula need to be designed to ensure that graduates are prepared to contribute to safe, harm free clinical environments (Ginsburg et al., 2012; Cooper, 2013). However, it has been reported that nursing students may lack the required knowledge and skills to enhance patient safety and to effectively manage errors should they occur (Ardizzone et al., 2009); and that nursing curricula lacks sufficient emphasis on patient safety (Attree et al., 2008).

A number of investigations have explored patient safety knowledge and skills of undergraduate nursing, medical and pharmacy students and the practice of beginning level health professionals (Duhn et al., 2012; Ginsburg et al., 2013; Doyle et al., 2015; Stevanin et al., 2015). These studies have found students commonly encounter adverse events while undertaking clinical experience and that many believe the clinical environment to be unsafe (Stevanin et al., 2015). Deficits in the socio-cultural aspects of patient safety education and in communication and teamwork in particular have also been described (Duhn et al., 2012; Ginsburg et al., 2013; Doyle et al., 2015). Socio-cultural aspects of patient safety relate to working in teams with other health professionals for patient safety, effective communication for patient safety, managing safety risks, recognising, responding to and disclosing adverse events, and contributing to a wider organisational culture of patient safety.

A disconnect between classroom learning and clinical practice exists. Ginsburg et al. (2012) investigated the patient safety competence of newly graduated Canadian nurses, pharmacists and physicians. Using the Health Professional Education in Patient Safety Survey (H-PEPSS), they found that while all groups reported