

The impact of HIRAID on emergency nurses' self-efficacy, anxiety and perceived control: A simulated study



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ABSTRACT

Introduction: Emergency nurses must perform accurate and complete comprehensive patient assessments to establish patient treatment needs and expedite care.

Aim: To evaluate the impact of a structured approach to emergency nursing assessment following triage, on novice emergency nurses' anxiety, self-efficacy and perceptions of control.

Methods: Thirty eight early career emergency nurses from five Australian hospitals performed an initial patient assessment in an immersive clinical simulated scenario, before and after undertaking training in HIRAID, an evidence-informed patient assessment framework for emergency nurses. Immediately following each scenario the nurses completed a questionnaire scoring anxiety, self-efficacy and perceptions of control levels. Paired sample t-tests and effect sizes were calculated.

Results: Participant anxiety levels were lower after HIRAID training compared to before undertaking the training (Mean (SD) = 53.26 (10.76) vs 47.46 (9.96), $P = 0.002$). Self-efficacy levels in assessment performance increased (189.32 (66.48) vs 214.06 (51.35), $P = 0.001$). There was no change in perceptions of control (31.24 (7.38) vs 30.98 (8.38), $P = 0.829$).

Discussion: High levels of anxiety and low levels of self-efficacy are known to be negatively correlated with clinical reasoning skills and performance.

Conclusion: The effect of HIRAID training on reducing anxiety and increasing self-efficacy has the potential to improve emergency nurses' assessment performance and the quality and safety of patient care.

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1. Background

Emergency nurses are frequently exposed to hectic, diverse and unpredictable work patterns (Kilcoyne and Dowling, 2007) which make performing quality patient assessments and delivering safe patient care challenging. The type and urgency of nursing care required is often uncertain as patients may present to the Emergency Department (ED) with a wide range of different illnesses or injuries often without a clear medical diagnosis or baseline data (Wears et al., 2010). The expectation

of emergency nurses to care for multiple patients at once within severe time constraints often present in the ED environment, can result in emergency nurses experiencing higher levels of stress when compared to other nursing specialties (Browning et al., 2007).

Emergency nurses commonly experience anxiety, described as an unpleasant feeling of intense and indeterminate fear (Peplau, 1952/1991), in response to the stressful ED environment, with higher levels associated with less nursing experience (Stathopoulou et al., 2011). Whilst mild anxiety can function as a motivational factor, high levels of anxiety can lead to panic impairing concentration, attention and effective problem solving (Kneisl, 2004).

Self-efficacy, belief in one's capability to perform a given behaviour or course of action, acts as a coping mechanism in response to stress (Gallagher et al., 2008), with higher levels of self-efficacy reported to positively influence clinical performance

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(Hollingsworth and Ford-Gilboe, 2006). Early career nurses have been observed to lack confidence in their clinical practice and ability to make decisions (Baumberger-Henry, 2012). Heavy workloads, high presentation rates and high patient acuity common to the ED workplace can threaten the self-confidence of emergency nurses (Fry and MacGregor, 2014). Strategies are needed to enhance novice emergency nurses' self-efficacy in patient assessment, as an increasing number of new graduate nurses are seeking and gaining direct entry to ED (Baumberger-Henry, 2012; Glynn and Silva, 2013), with minimal prior experience in performing patient assessments.

Perception of control is defined as how one perceives their own ability to make decisions and manage their workload (Hausser et al., 2014). High job demands and low levels of control in one's work which are prevalent in the ED setting are strong predictors of psychological strain (Hausser et al., 2014) and burnout (Adriaenssens et al., 2015), leading to a decrease in work performance (Nijp et al., 2012).

The complexity, ambiguity and sometimes urgency surrounding emergency nursing practice requires a structured approach to patient assessment to ensure the delivery of safe patient care. A structured approach to patient assessment has been shown to enhance clinician performance and has the potential to improve the delivery of care and subsequent patient outcomes in nurses and medical officers in the ED and other specialty areas including medical, surgical and intensive care units (Munroe et al., 2013).

The aim of this study was to evaluate the impact of teaching a structured assessment framework on novice emergency nurses' anxiety, self-efficacy and perceptions of control, when conducting an initial comprehensive patient assessment in the simulated environment.

2. Methods

2.1. Study design

This study used a pre-post design to assess the impact of a structured assessment framework (intervention) on emergency nurses' ability to assess and manage patients with common presentations to the ED. Participants' anxiety, self-efficacy and perceived control levels were assessed in a simulated environment both prior to and following completion of an education workshop introducing the structured assessment framework. Simulation was used to test and refine the new assessment model prior to integration in the clinical setting, guided by the knowledge to action cycle which acknowledges the importance of testing new knowledge prior to implementation (Graham et al., 2006). A close relationship has been reported between the simulated and clinical environment making it a valid evaluation method (Manser et al., 2007; Weller et al., 2014). The simulated setting avoids any risk of harm to patients and conditions may be controlled significantly more compared to the clinical environment (Dieckmann et al., 2011).

2.2. Sample

Following ethics approval from the relevant Human Research and Ethics Committee (HREC approval: LNR/13/WMEAD/44), an expression of interest was placed in six regional and metropolitan Australian EDs inviting nurses with less than three years post graduate experience to participate in the study. Nurses with less than three years post graduate experience were selected due to their minimal prior experience in performing patient assessments. According to Benner's stages of clinical competence (Benner, 1984) knowledge is still developing at this stage and clinicians are not yet fully competent, therefore still lacking confidence and requiring some supportive cues to carry out nursing duties. Eighty six nurses across the six sites were identified as meeting the inclusion criteria. Nurses who expressed interest in participating were each allocated an eight hour study day where they were paid their normal award wage. Forty nurses meeting the inclusion criteria volunteered to participate in the study. One nurse resigned prior to the

study being conducted and one nurse was unable to attend due to illness. Participation was voluntary and written consent was obtained from participants prior to undertaking study activities. Data were collected over six days in December 2013.

2.3. Intervention

HIRAID (History, Identify Red flags, Assessment, Interventions, Diagnostics, reassessment and communication) is an evidence-informed emergency nursing assessment framework developed to provide emergency nurses with a structured approach to the initial assessment of patients presenting to the ED following triage (Fig. 1) (Munroe et al., 2015). This framework was originally developed to provide novice emergency nurses with a systematic approach to patient assessment as part of a university post graduate curricula (Curtis et al., 2009), revised and re-developed in 2014 to reflect current research evidence (Munroe et al., 2015).

Participants completed a four hour interactive education workshop designed to teach the application of the HIRAID assessment framework. The workshop was founded on the principles of experiential learning which recognises that learning is generated from experience and reflection (Fowler, 2007) and transformative learning which acknowledges the importance of changing beliefs and attitudes to successfully transform behaviour (Matthew-Maich et al., 2010). These learning theories informed the selection of a variety of teaching styles including power point presentations, videos, group discussions and role play to meet the different learning styles of nurse participants and optimise the translation of HIRAID into their clinical practice. Simulation was not used as part of the intervention.

2.4. Simulated clinical scenarios

Participants were required to conduct an initial patient assessment and commence nursing care for a simulated patient presenting to ED both before and after participating in the HIRAID workshop (intervention). Two different high-fidelity simulated clinical scenarios

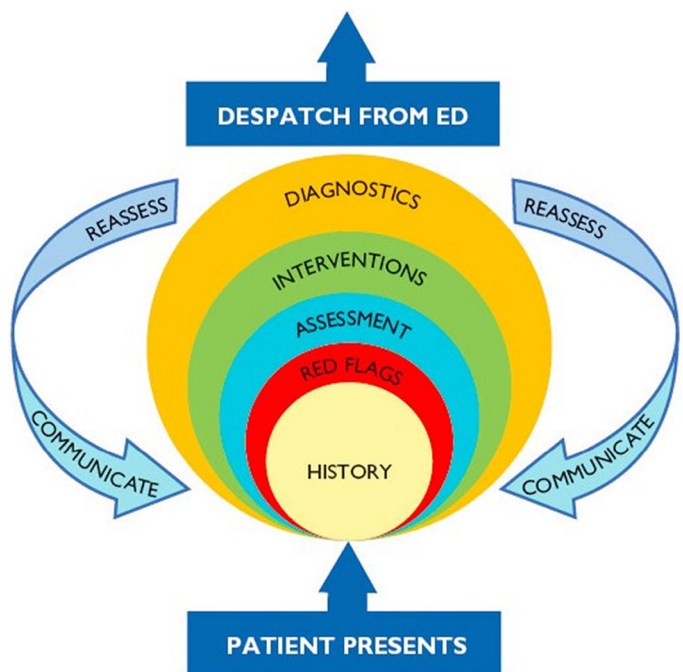


Fig. 1. HIRAID: An evidence-informed emergency nursing assessment framework © Curtis, Murphy, Strachan, Munroe, Lewis and Buckley 2014 adapted from Curtis et al. (2009) reprinted with permission.

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