EDITORIAL

Leadership and excellence in the early recognition of critical illness: A call for papers

The onset of critical illness refers to the stage when the person’s clinical state becomes physiologically unpredictable and unstable. It can result in incapacity or death within minutes or hours (Frost & Wise, 2007). Several conditions can lead to sudden and/or unexpected deterioration of patients, and nurses must possess knowledge and clinical experience of specific critical illness states to be able to identify key early warning signs and symptoms indicating physiological deterioration (Endacott et al., 2007). Examples of these conditions include sepsis, haemorrhage, raised intracranial pressure, post-surgical haemorrhage, multi-organ failure, infection and changes in cognitive functioning. They can manifest in patients in acute, critical care, pre-hospital, primary and community care contexts.

Excellence in the leadership, management and organisation of intensive and critical care nursing is key to the safe and effective care of critically ill patients (Dunn et al., 2000; Endacott et al., 2008; Ulrich et al., 2007). Our global health services are faced with ever-increasing demands to care for very ill and physiologically unstable patients (Adhikari et al., 2010). Nurses are required to recognise signs of clinical deterioration, identify cases of critical illness, activate rapid response teams, and take action to stabilise the patient’s clinical condition alongside medical colleagues (DeVita et al., 2006; Massey et al., 2010). However, there are notable gaps in the literature on rapid response teams, particularly, their formal evaluation, and the further exploration of reasons for non-activation and their under-use by ward based nursing staff (Massey et al., 2010). Frost & Wise (2007) argue that the lack of systematic approaches to assessment and treatment, poor staffing levels, and omissions in education and training, may account for the late recognition of critical illness in pre- and post-ICU environments.

The availability of sufficient staff with the appropriate levels of skill is an important consideration for all critical care managers as it impacts on the quality of care delivered and patient outcomes. Aiken et al. (2003) demonstrated that where more registered nurses with graduate level education were on duty, this was positively correlated with a reduction in failure to rescue events in post-surgical patients. In March 2012 the RN4CAST consortium published the findings of a large cross sectional survey of nurses and patients in 12 countries in Europe and the United States (Aiken et al., 2012). They found that locations with improved work environments and reduced ratios of patients-to-nursing staff were positively correlated with increased care quality and job satisfaction. There is also evidence about the segmented nature of hospital nurses’ work reported in the findings of a prospective longitudinal observational study conducted in two wards in an Australian teaching hospital, where the average duration of direct patient care tasks lasted only 55 seconds (Westbrook et al., 2011), clearly reducing opportunities for in-depth patient assessment and monitoring of changes in clinical states.

Further research is needed on the application of optimal scoring systems for detecting critical illness across different settings, including in pre-hospital environments. Rattray et al. (2011) used a factorial survey design using paper-based vignettes, to assess ward-based nurses’ judgements of patient acuity and the likelihood of the patients being referred for further review. They found that nurses’ application of an early warning score was the biggest predictor in their study for patients being referred for further review. Limitations associated with the use of paper-based vignettes rather than actual patient settings are noted, and the authors argue that future studies could increase fidelity for this type of research by converting the use of vignettes to clinical simulation models. They also recommend that post-registration education should focus more on developing clinical experience and expertise rather than knowledge acquisition alone.

In another study Fullerton et al. (2012) undertook a large retrospective observational cohort study of consecutive cases presenting to one emergency department (ED) in the UK. Caution is needed in the interpretation of the results due to the retrospective nature of the research design. Where the Modified Early Warning Score (MEWS) was applied
to the data retrospectively more ‘adverse events’ were correctly identified than by paramedics’ clinical judgement alone (i.e. sensitivity was improved). However specificity was reduced resulting in resource implications for the service, and it was concluded that further work to develop an optimal score for this setting was required (Fullerton et al., 2012). It is recognised that increasing severity of illness in some patient groups, such as medical (non-trauma) cases, can be missed by pre-hospital paramedic staff using their clinical judgement and experience alone. MEWS is known to be inaccurate in some medical emergencies where patients can have pathological critical illness conditions but physiological derangements have yet to occur, such as in some myocardial ischaemia, head injury and spinal injury cases (Fullerton et al., 2012). Clearly, clinical judgement and, in particular, nurses’ diagnostic judgements about the clinical state of the patient, are extremely important areas for investigation that can draw on robust theoretical and clinical conceptual frameworks (Coutler-Smith et al., 2013), and early warning scoring systems continue to provide a complementary and important safety net for unrecognised critical illness (NPSA, 2007).

Education is crucial to the enhancement of nurses’ knowledge, clinical reasoning, and practical skills, for the complex tasks associated with the early recognition and initial management of critical illness and for safe and effective multidisciplinary team working. A wide range of learning, teaching and assessment methods are available to critical care educators. Clinical simulation offers nursing students and qualified staff opportunities to learn high stakes clinical skills under safe and controlled educational conditions (Nickless, 2011; Abe et al., 2013). Ford et al. (2010) in a US prospective observational study, using a before and after design to examine simulation-based learning compared to traditional teaching methods, demonstrated a reduction of medication error rates for critically ill patients. Two different groups of nurses were studied (n=24) (Coronary Critical Care and Medical ICU), and despite limitations in the research design, simulation-based learning appeared to offer significant advantages over traditional methods of education.

Repeated scenario clinical simulation was also found to be particularly effective for developing clinical competence in the recognition of critical illness states and team working in cardiovascular critical care nurses (Abe et al., 2013). Equally, advances in technology enhanced learning are stimulating education innovations in the critical care context (Arora & Chachra 2012; MacDonald, 2013). Education programmes alongside targeted interventions, such as the introduction of improved MEWS observation charts, can increase qualified staff’s adherence to recommended best practice in the recording of patients’ vital signs in the 24 hour post-ICU discharge period, although this particular study found that the frequency of vital signs recordings for unplanned admissions to ICU was not statistically significantly improved (Hammond et al., 2013). Furthermore, new developments in professional lifelong learning, and the interdisciplinary discipline of the Learning Sciences (Lave & Wenger, 1991; Moon, 1999; Sawyer, 2006; Bradbury et al., 2010), all offer exciting opportunities for transformative and student centred learning ultimately leading to improved patient care in critical illness.

As technological advances are made in ‘Point of Care Testing’ (PoCT), specific educational interventions can be designed by teams, including laboratory staff, expert nurses and nurse administrators, to ensure that practitioners are competent in their use (Lilkanen and Lehto, 2012). PoCT is expanding rapidly and includes glucose monitoring for people with diabetes mellitus in a range of settings (Blake and Nathan, 2004) through to testing for rare but potentially fatal conditions such as spontaneous rectus sheath haematoma using abdominal ultrasonography (Shokohi et al., 2013).

The ICN Editorial Board is committed to publishing evidence based clinical and research articles and are planning a special issue of ICN to be published in December 2014 focusing on leadership and excellence in the early recognition of critical illness. We wish to invite the submission of manuscripts focusing on this topic. We would particularly welcome reports on research studies focusing on patient assessment and management of specific clinical states leading to critical illness, systematic evaluations of education programmes focusing on developing critical illness, specific education interventions such as the application of clinical simulation, and/or quality improvement initiatives or clinical audit to address aspects of the organisation and safe delivery of critical care. We will also consider clinical reports or case studies focusing on the presentation of less frequently occurring critical illness states, and/or literature review papers focusing on leadership and excellence in developing critical illness.

Contributors should submit their full manuscripts for consideration to Intensive & Critical Care Nursing by 14th March 2014. Papers should be submitted by selecting the option Special Issue — Early Recognition from the online submission system at http://ees.elsevier.com/iccn/ where full guidance on the preparation of papers for submission can also be found. All papers will be subject to the usual double-blind peer review and editorial processes of the journal. We look forward receiving a wide range of submissions for this special edition and also to facilitating the sharing of research, developments and experience relating to this important topic.

References


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