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ORIGINAL ARTICLE

The experiences of nurses implementing the Modified Early Warning Score and a 24-hour on-call Mobile Intensive Care Nurse: An exploratory study

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Summary
Aims and objectives: To explore experiences of nurses implementing and using the Modified Early Warning Score (MEWS) and a Mobile Intensive Care Nurse (MICN) providing 24-hour on-call nursing support.
Background: To secure patient safety in hospital wards, nurses may increase the quality of care using a tool to detect the failure of vital functions. Possibilities for support can be provided through on-call supervision from a qualified team or nurse.

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Design: This exploratory qualitative investigation used focus group interviews with nurses from two wards of a university hospital in Norway.
Methods: A purposive sample of seven registered nurses was interviewed in focus groups. A semi-structured guide and an inductive thematic analysis were used to identify interview themes.
Results: Three themes emerged: (1) experiences with the early recognition of deterioration using the MEWS, (2) supportive collaboration and knowledge transfer between nurses and (3) a ''new'' precise language using the score for communicating with physicians. The use of scores and support were perceived as improving care for deteriorating patients and for supporting the collaboration of nurses with other professionals.
Conclusion: In our study, nurses described increased confidence in the recognition of deteriorating patients and in the management of such situations. The non-critical attitude, supportive communication and interactive learning according to the MICN were essential elements for success.

Box 1 Implication for Clinical Practice
- Systematic use of MEWS and Mobile Intensive Care Nurse supports nurse-to-nurse collaboration.
- It provides standardised language for describing patients' status and thus facilitates nurse-physician communication.
- Learning in practice is ''highly recommended'' for educational purposes, and the MICN provides ongoing learning opportunities for RNs caring for patients at risk for deterioration.

Introduction

Technological and scientific advances have contributed to the escalating costs of healthcare and thus to cost-effectiveness pressures on healthcare delivery systems with limited resources. Adverse events in hospitals can be traumatic for patients, lead to prolonged hospitalisation, have life-threatening consequences and be costly. Serious adverse events may be prevented by the early recognition and response to clinical and physiological deterioration. Deterioration symptoms can be detected at the bedside by nurses and physicians (in this paper medical staff, doctors and surgeons). To better manage both patient safety and costs, track-and-trigger systems have been introduced to facilitate the early identification of patients who are at-risk for, or are deteriorating clinically (Bokhari et al., 2010). Various track-and-trigger and support systems are currently in use in hospitals, e.g., rapid response systems have been developed and implemented in Australia, the UK, Canada and the USA (Gao et al., 2007). In a review of the impact of in-hospital mortality, patterns of intensive care unit admission and usage, length of hospital stay, cardiac arrest and other serious adverse events were evaluated (Alam et al., 2014). The review concluded that a hospital-wide Early Warning Score (EWS) was useful and showed a positive trend towards better clinical outcomes whether it was coupled with an outreach team or not (Alam et al., 2014). The focus of the present study is to gain more knowledge regarding the experiences of ward nurses using a EWS, the Modified Early Warning Score (MEWS) and an on-call nurse support service (not a team), as implemented at a university hospital in Norway.

Background

Clinical judgment and clinical bedside decision support are essential for the early identification of deteriorating patients in hospital wards. The effectiveness of track-and-trigger systems is dependent on appropriate implementation, compliance and clinical response (Smith et al., 2013). EWS has been developed, and according to Smith et al. (2013), there are currently 33 different scoring tools in use.

Early Warning Score (EWS)

Historically, most EWSs include data on the pulse, blood pressure, respiratory rate, temperature and central nervous system function. Each parameter is scored and summed, with higher scores indicating a more abnormal reading. Subbe et al. (2001) demonstrated a system, MEWS, for identifying at-risk medical patients, which included urine output and deviation from ''normal'' blood pressure. The results from the study indicated that the MEWS was feasibly applied in acute medical units and was valid for identifying patients requiring increased levels of care. Green and Edmonds (2004) included MEWS in the ICU Liaison Nurse standard assessment tool that was especially made for discharge criteria from ICUs. The MEWS could also be used as an effective prediction of outcomes in oncology patients (Cooksley et al., 2012). An EWS can be used to predict when it is necessary to transfer patients to ICUs in addition to guiding the management of patients on the ward (Churpek et al., 2012). There is no single validated EWS that can be used for all diagnoses and there is a paucity of data on the implementation and evaluation of its use in general wards (Kyriacos et al., 2011). Researchers concluded that a MEWS tool includes too few vital signs and includes subjective and intuitive signs of the patient's condition (Kyriacos et al., 2011). In the United Kingdom, the National Early Warning Score (NEWS) was presented in the Royal College