Educating Nurses in the Intensive Care Unit About Gastrointestinal Complications

Using an Algorithm Embedded into Simulation

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KEYWORDS

• Algorithm • Rubric • Clinical judgment • Failure to rescue • GI failure
• Intensive care unit • Sequential organ failure assessment (SOFA) • Simulation

KEY POINTS

- Intensive care unit (ICU) nurses can be trained to use their surveillance and clinical judgment skills using an algorithm embedded into simulation education.
- The goal of ICU nurse simulation education is to facilitate the rapid identification of deterioration and subsequent escalation of care in the prevention of failure to rescue (FTR).
- Risk scoring tools, such as the sequential organ failure assessment (SOFA) and gastrointestinal failure (GIF) score are helpful in determining patients at risk for FTR.
- Early recognition of patient deterioration can be assessed in simulation through interpretation of observations collected through the SOFA and GIF scores, and management of care priorities can be applied during the simulation and reflected on during debriefing.
- To prepare ICU nurses to care for complex patients with complex gastrointestinal disorders, the Tanner clinical judgment framework was embedded into an algorithm and applied to educational simulation.

INTRODUCTION

Although the complexity of care in all acute care settings is increasing, the multifaceted needs of patients in the intensive care unit (ICU) are often overwhelming even for experienced nurses[1]. Nurses in the ICU are inundated with high-risk patients who require vigilant observation and complicated care regimes.[2] Nurses must be able to process and analyze both objective and subjective data for timely and aggressive interventions to be implemented. In order to reverse processes that indicate

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deterioration and to ensure patient safety, nurses must be adequately prepared to care for at-risk patients. This requirement means that ICU nurses must be trained to use their surveillance and clinical judgment skills. Patients with gastrointestinal (GI) complications are no exception, presenting in the ICU with often vague but serious issues.

In 2016, Makary and Daniel[3] calculated that medical error was the third leading cause of death in the United States (Fig. 1). When reporting the causes of deaths in the United States, the Centers for Disease Control and Prevention (CDC) noted that "human and systems factors are not taken into account."[3] Human factors refer to human strengths and limitations in the interactions of systems and environments that may affect performance.[4] Based on these statistics, prevention of deaths related to human factors must be implemented in all areas of the acute care setting.

Background

Among the causes of deaths related to human error is failure to rescue (FTR). FTR occurs when a hospitalized patient dies or incurs a disability from a treatable condition.[1] The complications and deterioration are likely to involve subtle (and sometimes obvious) signs and symptoms that are dismissed as not being concerning or that are missed.[5] The problem is magnified if nurses are not being prepared to recognize the signs and symptoms of the deterioration and there are communication failures between health care providers.[1] In the United States, FTR has become a national problem and is currently being reported as a quality marker.

The Institute for HealthCare Improvement reported the association between early recognition of patient deterioration and a decrease in hospital-related deaths.[6]

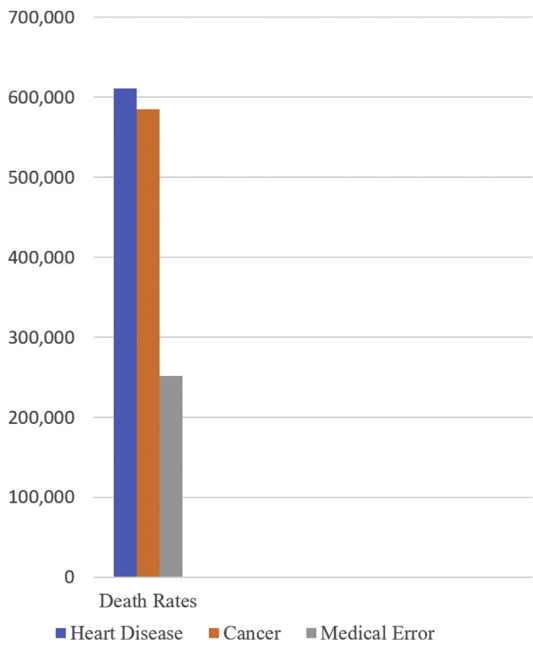

Fig. 1. Death rate 2013. (*Data from* Makary MA, Daniel M. Medical error—the third leading cause of death in the US. BMJ 2016;2139:i2139. doi:10.1136/bmj.i2139.)