Improving Performance and Confidence With Defibrillators for Resuscitation

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Background:

The global burden of cardiovascular disease is significant. According to data from the World Health Organization (2018), 17.7 million people die each year, which represents an estimated 31% of all deaths worldwide. In the United States, 1 of every 3 deaths is from cardiovascular disease, with 1 out of every 7 from sudden cardiac death (American Heart Association, 2018; Benjamin et al., 2018).

Cardiac arrests occur both out of the hospital and within the hospital. Data on survival from out of hospital cardiac arrest from a large multicenter trial was reported at 10.4% (Daya et al., 2015). In a multi-country European registry, survival for at least 30 days or to discharge was reported at 29.7%, with large variability reported among participating sites (Gräsner et al., 2016).

For in-hospital arrests, survival to hospital discharge for adults is low at 25.8%. In the United Kingdom, the survival rate is 18.4%. Survivors of cardiac arrest frequently have multiple medical problems, cognitive deficits, and functional impairments at discharge (Benjamin et al., 2018). In the elderly, one study reported in-hospital survival to discharge at 17.7%; that number decreased to 8.8% for patients who received cardiopulmonary resuscitation more than once (Menon, Ehlenbach, Ford, & Stapleton, 2014).

An opportunity for improvement in resuscitation performance was identified at an academic medical center in the southern United States. The academic medical center participates in the American Heart Association’s Get With The Guidelines®-Resuscitation program (American Heart Association, 2018). Reports available from the database include local data for trending and benchmarked data with other hospitals in the same state and across the nation. The goal for first shock, for a patient in a shockable rhythm, is 2 minutes, > 85% of the time. Trends in institutional data demonstrated that defibrillation within the first 2 minutes was below the goals. This trend was also noted within 6 months of deployment of a new code cart defibrillator.

In a study by Knight et al. (2014), resuscitation performance and patient outcomes improved with training of staff, which included simulation. In a study published by O'Donoghue et al. (2015) in which nurses were surveyed regarding several aspects of resuscitation, medical-surgical nurse respondents indicated that only 5% were “very comfortable/confident” in performing resuscitation. The majority felt “comfortable/confident” (39%) or “somewhat comfortable/confident” (39%).

Description:

A needs assessment from one hospital in the academic medical center indicated that nurses on medical-surgical units were least familiar and confident with the overall operations of the defibrillator. This was not surprising due to the fact that medical-surgical nurses do not participate in as many codes as ICU nurses do in our organization. A Clinical Nurse Specialist and Clinical Educator embarked on a project to provide frequent simulation exercises. Starting in November 2016, weekly hands-on practice was offered, on both day shift and night shift on random medical-surgical units. All equipment is on a rolling cart, moving from one area to the next, offering brief sessions with clinicians at point of care.

Evaluation:
Prior to, and at the initiation of the intervention, quarterly data on time to defibrillation for the institution was not meeting goal (time to defibrillation). For the past 2 quarters, the goal has been achieved and sustained. Nine months after the initiation of weekly defibrillator rounding, a survey of the medical-surgical staffs’ experiences with the weekly defibrillator rounds was conducted. Of respondents, 71% indicated participation in the hands-on practice. 100% reported feeling confident in applying the pads and turning on the defibrillator, 97% felt confident in following verbal cues, 92% felt confident in pressing analyze, and 84% of participants reported feeling confident in responding to an actual code.

Implications:

Maintaining positive patient outcomes requires frequent reassessment of staff’s education and competency needs. Nurses working in hospitals locally, regionally, and worldwide, can share innovative and practical strategies to improve clinician performance and confidence in resuscitation events. Finally, this project is congruent with the conference theme Innovating Healthy Clinical and Academic Environments: Optimizing Patient Outcomes and Professional Well-Being.

Title:

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Keywords:

Defibrillation, Improving Confidence and Performance and Resuscitation

References:


Abstract Summary:
This abstract will discuss the global implications of cardiovascular disease and data on survival to discharge after cardiac arrest. An opportunity for improvement in resuscitation performance with the use of defibrillators is identified, along with a strategy used by one hospital. Subsequent outcomes will be described.

Content Outline:
I. Cardiovascular Disease
   A. Global Burden
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      2. In Hospital
   II. Defibrillation
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      B. Institutional Outcomes
         1. Data Compared to Goals
         2. Background
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   IV. Project Evaluation
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Professional Experience: Odette Comeau is an adult critical care clinical nurse specialist (CNS) with 34 years of experience in nursing. She began her career as an associate degree nurse. Over the course of her career, she furthered her education with bachelors and masters degrees. She completed her doctorate of nursing practice in 2015. Her experiences in nursing have varied and include bedside clinician, program manager, administrative roles, and education. Her current role as a CNS is multifaceted and includes responsibility for the emergency response teams (code and rapid response), patient care practice and outcomes, evidence-based practice, policies and standards, and the professional development of staff.

Author Summary: Odette Comeau is an adult critical care clinical nurse specialist (CNS) with 34 years of experience in nursing. Her experiences in nursing have varied and include bedside clinician, program manager, administrative roles, and education. Her current role as a CNS is multifaceted and includes responsibility for the emergency response teams (code and rapid response), patient care practice and outcomes, evidence-based practice, policies and standards, and the professional development of staff.

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Professional Experience: Dora Kuntz is a clinical educator for adult patient care. She has 15 years of experience in medical-surgical, research and teaching. She is in candidacy for a PhD in Nursing Science, and has completed a Baccalaureate of Science in Nursing and Master of Science in Nursing Education degrees. Her role allows her to facilitate learning and learner development/socialization during onboarding, utilize strategies to design, implement, and evaluate professional development opportunities specifically at the institutional and departmental levels. Her role requires active participation within several councils. She also assists with policy and standards, evidence-based practices, and research.

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