Modified Early Warning Score (MEWS) Value in the Intensive Care Unit

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This presentation describes a case-control quantitative research study which examined the effects a modified early warning score (MEWS) had as a cardiac arrest event predictor in an adult ICU. Use of a MEWS tool demonstrated beneficial outcomes in its ability to enhance current treatment initiatives aimed at cardiac arrest event prevention.

**Evidence**

In published literature, the goal for Rapid Response Teams (RRTs) to decrease cardiac arrest events is consistently met. The author’s personal 7-year experience with an RRT in a 1,080-bed tertiary hospital aligned with the literature in that it did not achieve a significant reduction in cardiac arrest events. Contrasting evidence shows the use of some type of an early warning score yields positive outcomes in cardiac arrest prevention.

**Study Purpose**

Examine the effects of a modified early warning score (MEWS) tool as a cardiac arrest indicator.

**Setting**

32 bed Level 1 adult Medical-Surgical Intensive Care Unit (M/SICU) within a 1,080-bed tertiary care Magnet® Hospital.

**Population**

Patients aged 18 admitted to the M/SICU 7/1/2011 — 12/31/2012

**Methodology**

**Research Design**

Case-control method using retrospective medical record review.

**Study Sample**

Matched during identical time frame by age and gender
- **Case sample** – 45 subjects who experienced cardiac arrest during ICU stay
- **Control sample** – 45 subjects who did not experience a cardiac arrest

**Results**

Conduction of the Wilcoxon signed-rank test comparing the case groups’ MEWS respiratory rate score parameter values immediately, four, and eight hours prior to a cardiac arrest event? Deleterious changes in respiratory rate occur within eight hours prior to a cardiac arrest event indicated a statistically significant change at the 0.05 level. The outcome of this analysis provides the foundation for the rejection of the second null hypothesis and support of alternative hypothesis. Additional outcomes from the linear regression analysis reveal that the MEWS scores of the case groups was 1.2263 higher at each MEWS score of 5 or greater during their first 24 hours of admission.

**Implications**

- Use of MEWS score offers standard language to predict cardiac arrest.
- Newer software associated with EMRs automatically calculates MEWS score, alerting clinicians to emergent patient decline.

**REFERENCES:**