

ICU Practice Bundle Achieves Delirium, Ventilation Time Reduction



According to a recent study funded by the Robert Wood Johnson Foundation Interdisciplinary Nursing Quality Research Initiative and published earlier this year on the website of the journal *Critical Care Medicine*, the implementation of a set of ICU practices aimed at encouraging patient's mobility and decrease sedation can effectively reduce delirium and the necessity for a ventilator.

The increase of a patient's mobility during their hospitalisation through the practice bundle also achieves a decrease in weakness.

A team of researchers led by Michele Balas, RN, PhD, APRN-NP, CCRN, associate professor at The Ohio State University, and William Burke, MD, professor of psychiatry and vice chairman for research at the University of Nebraska Medical Center, assessed the efficiency and safety of implementing a bundled set of evidence-based practices into everyday ICU practices.

Entitled the ABCDE bundle, for Awakening and Breathing Coordination, Delirium monitoring and management, and Early mobility, the study analysed the results of having a nurse-led interdisciplinary team use the bundle with roughly 150 adult patients in five ICUs, one step-down unit and a special care/oncology unit in a medical center.

The outcomes were compared with those of a similar group of patients in the same setting prior to implementation of the bundle.

It appeared that study participants who were managed with the ABCDE bundle were able to spend more days breathing without a ventilator (a median of 24 days compared with the the control group's median of 21 days). Fewer of those patients experienced delirium (48.7% compared with 62.3%), with delirium duration reduced by one day. Patients included in the bundle treatment had double the odds of getting out of bed during their hospital stays at least on one occasion, and were subject to lower hospital mortality (11.3% compared with 19.9%).

Balas commented that despite the team not adhering consistently and completely to the bundle protocol, the researchers were still able to document important differences among the two patient groups, which, in the long run, made a difference. He added that the effects of a delirium and ventilator reliance reduction during a person's hospitalisation could reduce a person's psychological stress and improve recovery speed once discharged.

Based on the three primary principles of improving ICU team member communication, standardising care processes and breaking the cycle of oversedation and prolonged attachment to a ventilator that can lead to delirium and weakness, the ABCDE bundle uses the best available evidence on delirium, immobility, sedation and analgesia and ventilator management and has been tested in clinical trials that have been adapted for everyday use in the ICU.

It was developed by E. Wesley Ely, MD, MPH, Eduard Vasilevskis, MD and their colleagues at Vanderbilt University, and includes spontaneous awakening trials, spontaneous breathing trials, delirium screening, and the introduction of physical and occupational therapy as soon as possible. On this project, Vasilevskis and Ely served as consultants.

Burke concluded that the study provided confirmation of the ABCDE bundle being an effective intervention for improving patient outcomes and that, although complex, it enabled a hospital team to safely implement this intervention on a daily basis in the ICU.

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