

Automated near real-time ventilator data feedback reduces incidence of ventilator-associated events: A retrospective observational study

Harold Julius A Oglesby

Candler Hospital, USA

Objectives: Critical care teams are encouraged to follow best practice protocols to help wean mechanically ventilated patients from the ventilator to reduce ventilator-associated events including ventilator-associated conditions, probable ventilator-associated pneumonias, and infection-related ventilator-associated conditions. Providers monitor for alerts suggestive of possible ventilator-associated events and advise when patients should undergo spontaneous breathing trials.

Design: Retrospective review of clinical data over 24 months.

Interventions: The Respiratory Knowledge Portal (RKP) was implemented in our ICU. For 13 months, RKP data were ported to ICU workstations (control). For the following 11 months, RKP were also presented on tablet computers (intervention) for use during multidisciplinary rounds. We performed a retrospective review of RKP data from before and after the implementation of the tablet computers.

Measurements and Main Results: Data were collected from 337 patients (187 control group, 150 intervention group). A decrease in the occurrence of ventilator-associated events was observed during the intervention group compared with the control group. Only 2.0% of patients in the intervention group experienced any category of ventilator-associated event, while 11.2% of patients in the control

group experienced one event ($p = 0.003$). Intervention patients experienced less ventilator-associated conditions ($p = 0.002$), infection-related ventilator-associated conditions ($p = 0.026$), and probable ventilator-associated pneumonias ($p = 0.036$) than control patients.

Conclusions: Fewer ventilator-associated events, ventilator-associated conditions, infection-related ventilator-associated conditions, and probable ventilator-associated pneumonias were seen during the period when Respiratory Knowledge Portal monitoring data was presented on tablet computers. There was no difference in time on ventilator or overall length of stay.

Speaker Biography

Harold Julius A. Oglesby, MBA, BSPP, ASRT, RRT completed his MBA with a concentration in Health Administration at South University in Savannah, GA and his Bachelors of Science degree in Pulmonary Science at Concordia University in St. Paul, MN. Mr. Oglesby is the Manager of Pulmonary Medicine at Candler Hospital in Savannah, Ga. USA. He has published several articles and served on the editorial board of the Canadian Society for Respiratory Therapy journal.

oglesbyh@gmail.com

Receive Date: August 23, 2022; **Accepted Date:** August 26, 2022; **Published Date:** September 30, 2022