

Abstract

Original Paper

Weaning from Mechanical Ventilation Driven by non-Physician Professionals Versus Physicians

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Abstract

Background: Mechanical ventilation (MV) is a mainstay treatment in intensive care units (ICU). Studies have shown that applying algorithms to weaning procedure shortens the duration of MV. Whether weaning of patients by non-physician health care professionals (nurse, physiotherapist) improves or worsens outcomes remains an unresolved issue. The aim of the study was to evaluate studies comparing outcomes after weaning driven-by non-physician health professionals vs. physicians.

Methods: Search engines of Pubmed, CINAHL and Cochrane Library were searched using keywords 'mechanical ventilation', 'weaning', 'physician', 'non-physician', 'nurse', 'driven' without date limitation. 58 articles were identified during our initial literature search. We excluded duplicate articles selected different search engines, those not in-English, without abstracts and not comparing studies weaning driven-by non-physician health professionals vs. physicians. Finally, nine relevant studies were retrieved and included in the systematic review.

Results: Four of the studies were randomized controlled trials, another three studies were non-randomized controlled trials and two were cohort studies. Seven of these studies concluded that weaning driven by non-physician health care professionals decreases the duration of MV provided they adhere to weaning protocols ($p < 0.05$). Other two studies showed no difference between the two groups. No statistically significant differences between the groups were observed in terms of hospital stay, re-intubation, and mortality.

Conclusion: During the weaning of patients from the MV, it was suggested to use protocols developed by a multidisciplinary team who considers differences between ICUs and individuality of the patients. This systematic review revealed the current evidence regarding weaning from mechanical ventilation driven by non-physician professionals versus physicians. It was founded that weaning from MV is more effective and reliable when it is adhered to a protocol developed according to the properties of patient population and intensive care than when it is driven according to experiences and personal differences.

Key words: Mechanical Ventilation; Weaning; Physicians; Non-Physician Health Care Professionals; Systematic Review