STUDY TITLE: Prognostic value of different scoring models in patients with multiple organ dysfunction syndrome associated with acute COPD exacerbation.

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ABSTRACT

Background and objective: Chronic obstructive pulmonary disease (COPD) represents an increasing healthcare concern as a leading cause of morbidity and mortality worldwide. The objective of this study was to compare the predictive value of APACHEII and SOFA scores in elderly patients with multiple organ dysfunction syndrome associated with COPD exacerbation.

Methods: A cross-sectional observational study was performed on severe COPD patients within 24 hours of the onset of MODS. The Acute Physiology and Chronic Health Evaluation (APACHE) II and Sepsis-related Organ Failure Assessment (SOFA) scores were calculated for patients.

Results: A total of 100 elderly patients were recruited. Compared survivors, non-survivors, the number of failing organs, the number of exacerbation, length of hospital stay with survivors and non-survivors, compared individual variables of SOFA and APACHEII and the scoring models were statistically analyzed. The SOFA showed the highest sensitivity and area under the curve (AUC: .787) for predicting the prognosis of patients with MODS induced by acute exacerbation of COPD. The value of exacerbation frequency for predicting the outcome of COPD was excellent, both apache and sofa predicting outcome but When compared to apache score (71%) (With Confidence interval of 59%- 84%) sofa (79%) with Confidence interval (67% – 90%) is best predictor for outcome.

Conclusions: The SOFA score, determined at the onset of MODS in elderly patients with COPD, was a reliable predictor of the prognosis. The exacerbation frequency, number of failing organs, and the SOFA score were risk factors of a poor prognosis, and the exacerbation frequency could also effectively predict the outcome of COPD.

Key words: Acute exacerbation (AE); Chronic obstructive pulmonary disease (COPD); Multiple organ dysfunction (MODS); Acute Physiology and Chronic Health Evaluation (APACHE II) score; Sepsis-related Organ Failure Assessment (SOFA) score; Prognosis.