

REVIEWER'S REPORT

Manuscript No.: IJAR- 51846

Date: 24/05/2025

Title: PREDICTORS OF OUTCOME OF NONINVASIVE VENTILATION IN SEVERE COPD EXACERBATION

Recommendation:

- ✓ Accept as it is
 Accept after minor revision.....
 Accept after major revision
 Do not accept (*Reasons below*)

Rating	Excel.	Good	Fair	Poor
Originality		✓		
Techn. Quality		✓		
Clarity		✓		
Significance		✓		

Reviewer Name: Dr. S. K. Nath

Date: 25/05/2025

Reviewer's Comment for Publication:

This study demonstrates that early improvements in arterial blood gases—specifically pH, PaCO₂, and PaO₂—within the first two hours of NIV are significant predictors of successful outcomes in patients with severe COPD exacerbation. NIV is generally well-tolerated, with mild complications. Early monitoring of these parameters can guide clinicians in making timely decisions regarding continuing NIV or escalating treatment. However, further multicentric studies with larger and more diverse populations, long-term follow-up, and comparative analyses are needed to validate and expand upon these findings.

Reviewer's Comment / Report

Strengths:

- **Prospective Design:** The study's prospective cohort approach allows for the observation of temporal changes and reduces recall bias.
- **Clear Outcome Measures:** Categorization into success and failure groups based on clinical stability provides relevant clinical endpoints.
- **Early Predictive Indicators:** Identification of early blood gas parameter improvements (pH, PaCO₂, PaO₂) as predictors adds valuable insights for clinicians.
- **Sample Size:** Enrolled 60 patients, which is adequate for observational analysis and provides meaningful data.
- **Monitoring and Data Collection:** Multiple intervals of blood gas analyses strengthen the understanding of dynamic changes during NIV therapy.
- **Low Complication Rate:** Mild and manageable adverse effects suggest NIV's tolerability.

Weaknesses:

- **Single-center Study:** Limited generalizability due to being conducted at one hospital in India.
- **Lack of Long-term Follow-up:** Outcomes are limited to hospital stay without data on long-term survival or subsequent exacerbations.
- **Potential Selection Bias:** Inclusion and exclusion criteria may have omitted more severe or complex cases, affecting applicability.
- **Limited Patient Diversity:** Demographics indicate a predominance of male and smoking-related COPD, which may not reflect global patient populations.
- **Absence of Control Group:** No comparison with invasive ventilation or other therapies, restricting the evaluation of NIV effectiveness relative to alternatives.
- **Limited Data on Comorbidities Impact:** While some comorbidities are recorded, their influence on NIV success wasn't extensively analyzed.