

REVIEWER'S REPORT

Manuscript No.: IJAR- 51030

Date: 10/04/2025

Title: "High Flow Nasal Cannula Therapy in a Pediatric Intensive Care Unit for Children with Respiratory Distress with Hypoxia – A Retrospective Cohort Study"

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: 11/04/2025

Reviewer's Comment for Publication:

The study concludes that HFNC therapy is a safe and effective first-line non-invasive support for children experiencing acute respiratory distress with hypoxia in a pediatric ICU setting. The reported low failure rate (10.6%) and absence of mortality support the use of HFNC as a viable alternative to invasive ventilation methods. However, the authors acknowledge the need for further research, ideally involving larger samples, control groups, and longitudinal follow-up, to validate the efficacy and safety of HFNC therapy across diverse pediatric settings. In summary, while the research provides promising insights into the use of HFNC therapy, the methodology and design limitations underscore the importance of cautious interpretation of results and the need for future studies to corroborate these findings.

Reviewer's Comment / Report

Strengths

- Relevance:** The study addresses a crucial area in pediatric medicine, especially given the increasing use of non-invasive ventilatory support in children with respiratory distress.
- Sample Size:** A total of 75 patients were included in the study, allowing for a reasonable assessment of HFNC efficacy within the targeted pediatric population.
- Real-world Application:** By conducting a retrospective cohort study within a pediatric intensive care unit, the findings reflect practical clinical settings.
- Outcome Measures:** The study clearly defined success (transition to lower oxygen support) and failure (escalation to higher oxygen support), providing a straightforward framework for assessing HFNC effectiveness.
- No Mortality:** The study reported no inpatient mortality, suggesting that HFNC therapy has a favorable safety profile.

Weaknesses

- Retrospective Design:** The retrospective nature may introduce biases related to data collection and patient selection, limiting the ability to establish causality.
- Limited Generalizability:** The study was conducted at a single institution, which may affect the generalizability of results to other pediatric intensive care units with different practices or patient populations.
- Lack of Control Group:** The absence of a control group limits the ability to compare the outcomes of HFNC therapy with other forms of treatment.

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4. **Potential Confounding Factors:** Other patient variables and treatment differences may not have been adequately controlled for or analyzed, affecting the interpretation of HFNC's effectiveness.
5. **Short Follow-up:** The duration of the study and follow-up may not capture long-term outcomes associated with HFNC therapy.