

## Non-invasive ventilation in patients with respiratory failure

**Sahana k**

Sri Ramachandra Institution, India

**Introduction:** Respiratory failure is a life threatening emergency and the management of respiratory failure includes invasive or non-invasive ventilation based on the various clinical parameters. Hence the present study was conducted to assess the outcome of NIV in patients with respiratory failure and to determine the factors predicting the outcome.

**Material and Methods:** This Prospective observational study had included a total of 104 subjects with certain inclusion and exclusion criteria for analysis. The demographic details, clinical examination, vitals and arterial blood gas levels at 0, 1, 4 and 24 hours were analyzed among study subjects. Descriptive analysis was carried out that include mean and standard deviation for quantitative variables, frequency and proportion for categorical variables. Data was also represented using appropriate diagrams like bar diagram, pie diagram. Parametric statistics used were paired t test and ANOVA. Non parametric statistics used were Chisquare test. At 95% confidence interval , p value of <0.05 was considered to be statistically significant. Multivariate Regression analysis was done to predict the factors determining outcome of NIV. The data was entered in excel sheet and analyzed using SPSS (Version 16).

**Results:** The mean age of the study population was  $52.88 \pm 16.58$  years. The age and outcome was found to be statistically not significant (P value 0.45). Majority of the subjects were male with 73.1 % and female were 26.9 %. According to the gender, 70.78% success rate was found among males and 29.23% success rate was found among females. The difference between gender and outcome was not statistically significant (P value 0.49). There was no statistically significant association observed between BMI and outcome of NIV ( p value 0.84). Higher rate of success was seen among subjects with COPD (43.37%) followed by COVID 19 patients (18.07%), acute pulmonary edema and pneumonia (9.64% each), ARDS (8.43%). In the study, the difference between etiological diagnosis and outcome was found to be statistically significant in ARDS (P value 0.02), pneumonia (P value 0.04) and COPD (P value 0.007). Patients with Glasgow coma scale < 8, 12% were unsuccessful and Glasgow coma scale >8, 78.48% were successful. The difference between Glasgow coma scale and outcome was found to be statistically significant (P value <0.0001). All ABG parameters at 0, 1, 4 and 24 hours (except PaCo<sub>2</sub> at 4 and 24 hours) were statistically significant to predict outcome of NIV.

**Conclusion:** A successful outcome of 62.5% was observed in the subjects initiated on NIV for respiratory failure, COPD being the major etiological diagnosis and the factors determining NIV were based on etiological diagnosis, GCS and arterial blood gas parameters.

Joint Event

**COPD 2022**

**ENT-2022**

**CARDIOVASCULAR-2022**

**PEDIATRIC CARDIOLOGY-2022**

**December 05-06, 2022**

**Webinar**

### **Biography**

Sahana k is a consultant Pulmonologist from India; she completed her MBBS in Sri Ramachandra Institution of Higher Education and Research Centre and did MD Respiratory Medicine in Chettinad Academy of Research and Education. She has various publications in National and International Journals and was a speaker in 2021 National conference held by Chest Council of India. She is currently working at Sree Balaji Medical College, Chennai and is also a consultant at Apollo clinic. She is also the founder of Health Hale community clinic and assisted living which aims on creating awareness on healthy life and healthy lungs and have conducted several free lung function screening camps.

---

**Received:** November 28, 2022; **Accepted:** November 30, 2022; **Published:** December 05, 2022

---