

## Abstract

### RETROSPECTIVE REVIEW OUTCOME OF BIPHASIC POSITIVE AIRWAY PRESSURE OR CONTINUOUS POSITIVE AIRWAY PRESSURE VIA MASK IN PEDIATRIC INTENSIVE CARE SETTING OF SIRIRAJ HOSPITAL

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**Introduction:** Respiratory failure is common problem found in Pediatrics. The standard treatment for respiratory failure is intubation. However, intubation may cause many complications such as laryngeal injury, lung injury from ventilator, and ventilator associated lower respiratory tract infection. Therefore non-invasive mechanical ventilators are used to support respiration to decrease complications from intubation

**Objective:** To evaluate effectiveness of using non-invasive mechanical ventilators in selected patients with impending respiratory failure

**Study design:** Retrospective descriptive study

**Methods:** Pediatric patients who were treated with BIPAP or CPAP via mask admitted in the Pediatric Intensive Care Unit Faculty of Medicine Siriraj hospital, from January 2015 to June 2018, were enrolled. The retrospective data were recruited using ICD-9 9093 NON-INVASIVE MECHANICAL VENTILATION. The data was collected including patents' demographic data and vital signs and blood gas at 0, 1, 3, 6, 12, 24 hours after treated with BIPAP or CPAP

**Results:** Thirty-three patients were enrolled. Thirty-six episodes of respiratory failure with BIPAP or CPAP used were included. There were twenty-nine successful episodes (80.6%). The factors that predict success of treatment including shorter duration of BIPAP or CPAP used, and decreasing of respiratory rate at first hour. However, too small populations were recruited, so statistical significance could not be evaluated.

**Conclusion:** BIPAP and CPAP via mask remained a choice of treatment in impending respiratory failure. Vital signs, including respiratory rate and heart rate, may be used as indicators for success in respiratory failure.

**Keywords:** respiratory failure, non-invasive ventilator, biphasic positive airway pressure, continuous positive airway pressure

