

## عنوان مقاله:

Oxygenation and Ventilation Indices in Relation to the Duration of Mechanical Ventilation in ۲-Month to ۱۴-Year-Old Children Admitted to PICU

## محل انتشار:

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## نویسندگان:

Zahra Pourramazan - *Pediatric Health Research Center, Tabriz University of Medical Sciences, Tabriz, Iran*

Nemat Bilan - *Professor, Pediatric Health Research Center, Tabriz University of Medical Sciences, Tabriz, Iran*

Farinaz Amirikar - *Pediatric Health Research Center, Tabriz University of Medical Sciences, Tabriz, Iran*

## خلاصه مقاله:

Background: Respiratory diseases are the most common cause of death in the pediatric population and acute or progressive respiratory failure, which requires mechanical ventilation, is the most common cause of children's hospitalization in the intensive care unit. Despite advances in recent decades regarding the treatment of acute respiratory diseases in children and innovative settings in mechanical ventilation, there are no clear and comprehensive guidelines for the use of mechanical ventilation in children. Objective: This research aimed to evaluate the correlation between oxygenation and ventilation indices in predicting the duration of mechanical ventilation in children aged two months to ۱۴ years old admitted to PICU. Methods: In this cross-sectional study, ۵۶ patients were included. The required information was extracted from the patients' clinical records and entered into the prepared questionnaires. They included age, sex, and diagnosis, duration of intubation, extubation time, mechanical ventilation parameters, and blood gas parameters. Patients' blood and ventilation data were collected and calculated from the first day of mechanical ventilation until ۷ days later to calculate Oxygenation (OI) and Ventilation (VI) indices. Results: Pneumonia, the most common cause of hospitalization in the intensive care unit and the need for intubation, was present in our population (۸۲%) due to aspiration and Covid-۱۹ disease. There was a significant relationship between higher levels of  $FiO_2$  and longer duration of patients' intubation ( $P < 0.001$ ). The amount of PIP in each of the first days of intubation was significantly correlated with the duration of the study. A significant direct relationship was found between the ventilation index and oxygenation index. ( $P < 0.05$ ) Except for the sixth day, oxygenation index and duration of intubation were significantly correlated. ( $P < 0.05$ ) This means that along with the increase in oxygenation index, the duration of intubation was also increased. Ventilation index and duration of intubation were also significantly correlated, except on the fourth and fifth days ( $P < 0.05$ ). None of the extubated patients required re-intubation. Eventually, a very weak statistical correlation was found between the intubation period and the final result in the form of discharge and recovery of the patient or his death. Conclusion: Using variables such as gender, PIP and oxygenation, and ventilation indices, in the early days of mechanical ventilation, the prognosis of these patients and ... better management of their treatment can be judged. It

## کلمات کلیدی:

Intubation, Oxygenation Index, Ventilation index, blood gases

