

Predictive Factors of Nasal Continuous Positive Airway Pressure (NCPAP) Therapy Success in Preterm Neonates with Hyaline Membrane Disease (HMD)

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Abstract : Hyaline Membrane Disease (HMD) is the main cause of respiratory failure in preterm neonates caused by surfactant deficiency. Nasal Continuous Positive Airway Pressure (NCPAP) is the therapy for HMD. The success of therapy is determined by gestational age, birth weight, HMD grade, time of NCPAP administration, and time of breathing frequency recovery. The aim of this research is to identify the predictive factor of NCPAP therapy success in preterm neonates with HMD. This study used a cross-sectional design by using medical records of patients who were treated in the Perinatology of the Pediatric Department of Dr. M. Djamil Padang Central Hospital from January 2015 to December 2017. The samples were eighty-two neonates that were selected by using the total sampling technique. Data analysis was done by using the Chi-Square Test and the Multiple Logistic Regression Prediction Model. The results showed the success rate of NCPAP therapy reached 53.7%. Birth weight ($p = 0.048$, OR = 3.34 95% CI 1.01-11.07), HMD grade I ($p = 0.018$, OR = 4.95 CI 95% 1.31-18.68), HMD grade II ($p = 0.044$, OR = 5.52 95% CI 1.04-29.15), and time of breathing frequency recovery ($p = 0,000$, OR = 13.50 95% CI 3.58-50, 83) are the predictive factors of NCPAP therapy success in preterm neonates with HMD. The most significant predictive factor is the time of breathing frequency recovery.

Keywords : predictive factors, the success of therapy, NCPAP, preterm neonates, HMD

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