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Calming Distress- Impact of Relaxation and Chest Proprioceptive Neuromuscular Facilitation Technique in Neonatal Respiratory Distress Syndrome: A Case Series

Payal Mehta, Postgraduate Student, Department of Physiotherapy, Maharishi Markandeshwar Institute of Physiotherapy and Rehabilitation, Maharishi Markandeshwar (Deemed to be University), Mullana, Ambala, Haryana, India.
Shweta Sharma, Assistant Professor, Department of Physiotherapy, Maharishi Markandeshwar Institute of Physiotherapy and Rehabilitation, Maharishi Markandeshwar (Deemed to be University), Mullana, Ambala, Haryana, India.

NAME, ADDRESS, E-MAIL ID OF THE CORRESPONDING AUTHOR:

Dr. Shweta Sharma,

Assistant Professor, Department of Physiotherapy, Maharishi Markandeshwar Institute of Physiotherapy and Rehabilitation, Maharishi Markandeshwar (Deemed to be University), Mullana, Ambala, Haryana, India.

E-mail: shwetasharmampth27@gmail.com

ABSTRACT

Respiratory Distress Syndrome (RDS) in neonates is a critical condition, due to insufficient surfactant production in the lungs. Majorly, preterm neonates are at a huge risk of respiratory complications due to immature lung formation and alveolar collapse. The clinical signs of Respiratory Distress are usually cyanosis, grunting, chest wall retractions and irregular respiratory rate and abnormal breathing pattern. Thus, in this case, therapeutic interventions are necessary to promote relaxation and improve the pattern of breathing to avoid severe complications like hypoxia or respiratory failure. With this perspective in mind, this case series highlights a detailed history of prenatal, natal and post natal assessment of mother and baby along with necessary observations and detailed anthropometric measurements and thorough cardio-respiratory examination of the neonates. It demonstrates how Relaxation techniques and Chest Proprioceptive Neuromuscular Facilitation (PNF) techniques provided every two weeks for ten days on infants with RDS shows improvement. Warm light touch, soft-voiced communication, tucking position facilitation, soft rocking, olfactory stimulation with mother's milk, and parental audio engagement were among the relaxing techniques used in the intervention. Low vertebral pressure, thoracic squeezing, mild chest percussion, intercostal stretching, and perioral stimulation were all used in chest PNF techniques. The neonates were on non-invasive breathing support with Continuous Positive Airway Pressure (CPAP) and exogenous surfactant treatment. Assessments conducted before and after the intervention showed notable clinical improvements in terms of oxygen saturation (spO_2) level, Silverman-Anderson Score (SAS) and Neonatal Infant Pain Score. The Arterial Blood Gas (ABG) analysis has also remarkably shown transition from respiratory alkalosis to mild respiratory acidosis. This underscores how a collaborative approach achieves successful outcomes in saving lives.

Keywords: Continuous Positive Airway Pressure (CPAP), Newborn, Oxygen saturation, Pain, Percussion, Relaxation therapy