

THE IMPACT OF CHEST PHYSIOTHERAPY ON NEONATAL BABIES IN NEONATAL INTENSIVE CARE UNIT: A SYSTEMATIC REVIEW

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ABSTRACT

BACKGROUND: Respiratory problems occur in 4 to 6% of neonates. And one of the most common problem is respiratory distress syndrome (RDS) that occurs within first 42- 78 hours of life. The role of chest physiotherapy (CPT) in the neonatal intensive care unit (NICU) is mainly associated with taking care of the neonatal lungs. CPT such as percussion, vibrating, postural drainage, and suction are all used in the physiotherapy management of neonatal respiratory disorders. **OBJECTIVE:** This systematic review aims to investigate the impact of different chest physiotherapy techniques such as percussion, vibration and positioning on respiratory system of neonatal in the NICU. **DATA SOURCE:** This systematic review includes 10 Randomized Controlled Trials (RCT) for neonatal babies in NICU who suffer from respiratory problems. The articles were retrieved from Google Scholar, PubMed, and ResearchGate. Articles were also accessed from Journals (Clinical Journal of Neonatology). **STUDY SELECTION:** Data belonged from 2010 to 2021 were included RCTs that focus on physiotherapy intervention with neonatal who has respiratory problems in the NICU and it also focus on the impact of CPT on those neonatal, chest physiotherapy techniques were included in this review. **RESULTS:** Total 10 studies were included in this review. The analysis of vital sign such as respiratory rate, SatO₂, PtcCO₂, and PtcO₂ that monitored before and after physiotherapy intervention "CPT" show improve in vital signs values after different CPT techniques, also CPT decrease the need of neonates to ventilator or oxygen support. In addition, CPT has good effect on neonates' lungs like airway clearance, decrease secretion and improve breath and lung function. But some studies didn't support the routinely performed of CPT techniques on neonate in NICU because there was no significant improvement on neonates that require using extra interventions "CPT techniques" in addition to the usual treatment "medical intervention". **CONCLUSION:** Evidence supports that the use of chest physiotherapy is safe and effective in treatment neonates with respiratory problem such as bronchiolitis, pneumonia, respiratory distress syndrome and many other respiratory problems. Studies found that the CTP

improve oxygenation level, decrease secretion, promoting ease of breathing and reduce the need to ventilators.