

Neonatal Physiotherapy in a Portuguese NICU: Focus on Very and Extremely Preterm Infants

Background: Prematurity is a well-established biological risk factor for atypical neurodevelopment. Early intervention, especially during periods of heightened neuroplasticity, is critical. Physiotherapy plays a key role in the care of preterm infants by helping to minimize early-life complications.

Objective: To assess physiotherapy involvement in the treatment of preterm infants during neonatal hospitalization in a level-III Portuguese Neonatal Intensive Care Unit (NICU) over recent years.

Methods: This retrospective, descriptive study compares two periods: 2017–2019 and 2022–2024. It includes all infants born at <32 weeks' gestation, admitted in the NICU, and hospitalized for over 14 days. Conditions analysed include extreme prematurity, bronchopulmonary dysplasia (BPD), and moderate/severe peri-intraventricular haemorrhage (PIVH).

Results: A total of 337 infants were studied: 196 (2017-2019) vs. 141 (2022-2024) infants; median birthweight 876g vs. 1025g;

Physiotherapy was provided to 54/196= 29% vs. 68/141= 48% of the infants. Invasive ventilation (days) 34 vs. 31, non invasive ventilation (days) 49 vs. 67.

Among those with specific conditions and with physiotherapy: extreme prematurity 28 vs 20 (52% vs. 29%), BPD: 46 vs. 58 (85% vs. 85%), moderate/severe PIVH: 8 vs. 7 (15% vs. 10%).

Conclusion: Although very and extremely preterm infants are expected to benefit significantly from early physiotherapy intervention during neonatal hospitalization, such care was provided to only about one-third of infants in 2017-2019 and half in 2022-2024. While this represents notable improvement in access to physiotherapy, it also underscores the persistent gap in achieving the standard of excellence in care for these vulnerable neonates.

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