

Lutheran Children's Hospital Neonatal Follow-Up Clinic: Risk of Developmental Delay of Preterm Neonates as a Function of Gestational Birth Age

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Background/Objectives:

About 1 in 10 babies are born prematurely, a number that increased from previous years because more resources are available and fertility treatments are effective. Children born prematurely have a higher risk of developmental delays that are associated physically, socially, linguistically, and neurodevelopmentally. With these delays being commonly associated with preterm infants, there is the need to continuously study the longitudinal effects caused by being born prematurely. Our objectives include creating a more comprehensive care plan, comparing gestational age with developmental delay levels, and noting correlations between delays and their respective cohort. We hypothesize the more premature the child was born, the higher the likelihood of developmental delay(s).

Methods:

Two main tests were used to look for a correlation between the delay or lack of a delay with the child's adjusted age. TIMP, Test of Infant Motor Performance, was used at two different age intervals to measure infant motor capacity. The ASQ, Ages and Stages Questionnaire, was used to screen several different developmental areas of concern, including social and behavioral abilities.

Results:

The data shows the developmental delay decreasing over time in all preterm cohorts with an exception being the late preterm cohort, likely due to its small sample size. The Chi-square test is not significant for the TIMP1 and TIMP2 comparisons of preterm cohorts. The ASQ data sets did not have a clear consensus of data.

Conclusions:

There is an increase of developmental delay in neonatal infants in comparison to the standard developmental milestones. A positive finding is that there is an overall decrease in developmental delay as the child progresses in age.

Potential Impact: This research may promote other hospitals to implement a NFC for patient care and research considerations.