

# Development of premature born children - what about language, reading and writing? The speech and language pathologist's view

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## INTRODUCTION

It is known that premature born children are at risk for different kind of difficulties related to language, reading and writing. There are a plethora of studies suggesting a negative influence of adverse biological factors on language acquisition, specifically phonological processing and literacy in premature born children (Kirkegaard at al., 2006; Bayless and Stevenson, 2007; Luciana at al., 1999; Saavalainen at al., 2006). This negative influence can be observed in difficulties in language/linguistic categories important for education and academic achievement – phonological awareness, phonological working memory and phonological naming.

## METHODS

Two groups of children, prematurely born children (n = 34) and children born at term (n = 34) were compared on a set of phonological tasks at the average age of 10.2 year. The average gestational age of prematurely born children and term born children was 34.38 weeks (29-36) and 39.26 weeks (38-41), respectively. The children were matched according to chronological age, gender and maternal educational level. The used tasks encompass phonological synthesis and analysis, spoonerism tasks, repetition of nonsense sentences, letter sequences tasks, digit span.

## RESULTS

Prematurely born children had poorer results on phonological processing tasks in comparison with term born group (p < 0.01). The biological variables are significantly predictive of phonological processing according to the results of regression analyses and quasi-canonical correlation analysis. Therefore biological predictors should be considered as risk indicators for lower language status. Poor language abilities often cause reading and writing problems which strongly determine academic achievement of these children.

## CONCLUSIONS

The results emphasize that biological variables present in prematurity are indicators of risk for some specific aspects of cognitive development. Speech and language pathologist's monitoring from an early age and continuously during development

in premature born children can prevent specific learning difficulties in school period.

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### CHARACTERISTICS AND DISCHARGE OUTCOMES OF INFANTS UNDERGOING THERAPEUTIC HYPOTHERMIA IN AMERICAN NICUS

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## BACKGROUND

Therapeutic hypothermia (TH) has become a standard treatment for hypoxic-ischemic encephalopathy in American NICUs. Data regarding the characteristics and hospital discharge outcomes of TH-treated infants has been limited to randomized controlled trials.

## OBJECTIVE

The objective of this study was to describe the characteristics and hospital discharge outcomes of infants undergoing TH in a nationwide sample of NICUs.

## METHODS

The study comprised a descriptive review of neonates from a network of 330 neonatal intensive care units reported to the Pediatrix Clinical Data Warehouse (CDW). Data regarding demographics, hospital-based interventions, medication use and initial hospital discharge outcomes were collected. Continuous and categorical variables were compared, as were time-related trends.

## RESULTS

The number of neonates treated with TH increased during the study period with a concurrent increase in the number of centers providing TH. While 51.9% of TH-treated infants received phenobarbital, only 28.6% received a diagnosis of seizures and only 25% of infants were discharged home on anticonvulsants. Mortality was 11.4%, with 79.4% of infants being discharged home and 9.3% transferred to other centers following TH. Median length of stay was 12 days. Few infants required adjunctive therapies (e.g. oxygen) at home. See **Tab. 1** for more complete data.

## CONCLUSIONS

The survival of neonates in this cohort was higher than reported previously. Most infants who survive