

Longitudinal gross motor development of Brazilian preterm and full term infants: relationship between social and biological factors

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Introduction: The notion that preterm, low birthweight infants, have greater chances to exhibit developmental delays is well discussed in the literature, however, there are still very little data concerning the development of Brazilian preterm infants, especially the ones from socially disadvantaged backgrounds, who are exposed to biological as well as environmental risk factors.

Objectives: Compare the gross motor performance of preterm and full-term infants from four to eighteen months and examine the relationship between birth conditions as well as the quality of the home environment on child's motor development.

Methods: Longitudinal study including 40 Brazilian infants from low-income families, divided into a full-term and a preterm group (GA \leq 34 and/or birth weight \leq 1500 g), matched for gender and age. Children were born in the same hospital and were assessed with the Alberta Infant Motor Scale (AIMS) at ages four, six, eight, 12 and 15 months. At 15 months, the HOME Inventory was applied and at 18 months the Peabody Developmental Motor Scales (PDMS -II).

Results: Preliminary data analysis indicate no significant difference in gross motor performance between groups at any age, but there are signs of differences in the rate of development as well as instability in the percentile classifications over time. Most children in both groups scored within normal range. The overall quality of home environment tended to be similar, but issues concerning the validity of the HOME as measure of environmental stimulation in very low income Brazilian families were raised. Data on gross and fine motor development at 18 months will be analyzed, as well as the relationships between variables.

Conclusion: Infants from low-income families, even those born prematurely, exhibited gross motor performance similar to international norms, which is surprising given the poor quality of environmental stimulation. Variations in scores over time underscore the importance of serial assessments over single measures of motor development. Issues regarding the validity of the assessment tools for the Brazilian children will be discussed.

Implications: Decisions regarding whether or not intervene should be based on serial assessments, with the use of valid measures that are not readily available for Brazilian therapists.