Gross Motor Outcomes of Children Born Prematurely in Northern Ontario and Followed by a Neonatal Follow-Up Programme

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ABSTRACT

Purpose: The developing brain of a premature infant is vulnerable to injury. As a result, the long-term consequences of a premature birth include motor deficits, cognitive and behavioural problems. It is crucial to identify motor dysfunction during the preschool period because it interferes with a child’s ability to explore the world. The goals of this study were to (1) provide preliminary data on the gross motor outcomes of children born prematurely and (2) determine the proportion and characteristics of the children who had maintained delays over the course of follow-up. Method: A retrospective chart review was conducted on all infants monitored by a neonatal follow-up programme. Each child was assessed by a single physiotherapist from birth until age 2 years. Of the 107 cases identified, 97 individuals were retained for analysis; they had a mean gestational age of 31.1 (SD 2.9) weeks and a mean birth weight of 1.66 (SD 0.53) kilograms. Results: The majority of children assessed were found to have gross motor outcomes in the average range. Children with scores below the average range were most often born very preterm (VPT) or moderately preterm (MPT), with very low or low birth weight, respectively. A total of 17 participants were referred to physiotherapy to address the gross motor delays identified in the follow-up programme; 14 of these 17 had previously been identified as delayed and were being monitored. Late preterm (LPT) children (n = 6) were most often referred, followed by those born extremely preterm (EPT) and VPT (n = 4). In total, 56 children were identified as delayed at one assessment point but were found to be within normal limits by the end of the follow-up period. Conclusion: It is important to periodically monitor premature children. A longitudinal, population-based study is also needed to provide more data on the predictors and long-term motor outcomes of MPT and LPT children.

Key Words: gross motor development; neonatal follow-up; prematurity.

In premature infants, motor skill impairment is a commonly reported negative outcome, with cerebral palsy (CP) being the most severe form. Many preterm children do not go on to develop CP but still present with impaired motor skills.

A review of preterm children born with a broad gestational age (GA; ≤ 37 weeks’ gestation) and without CP revealed an increased likelihood of childhood motor skill impairment. Prevalences of 19 of 100 and 40.5 of 100 has been reported for preterm children with moderate