Project title
Two-year Gross Motor Outcome of Very Low Birth Weight Infants

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Keyword(s)
gross motor outcome
premature infants
very low birth weight infants

Introduction
Very low birth weight (VLBW, under 1500g) infants are more susceptible to neuromotor problems and delayed motor development.

Objectives
1. To assess the gross motor (GM) developmental outcomes of VLBW infants at 18 months (m) (corrected age) and 24m (chronological age). 2. To investigate how well GM assessments at 4 and 8 m predict GM outcomes at 24 m.

Methodology
A total of 144 VLBW infants (gestation 29.8±2.6 week, BW 1120±257g) born in 2010-11 and discharged into the High Risk Infant Programme of the Princess Margaret Hospital were followed up by physiotherapists at 4, 8, 12 and 18m (corrected age) and 24m (chronological age). The Infant Neurological International Battery (INFANIB) and Alberta Infant Movement Scale (AIMS) were used to assess neuromotor and GM development, respectively, at 4, 8, and 12m. Peabody Developmental Motor Scale (PDMS) was used to assess GM outcomes at 18 and 24m.

Result
During the follow-up period, 5 children (3.5%) were found to have major disabilities, including cerebral palsy (2, 1.4%), severe hearing impairments (3, 2%), ataxia (1, 0.7%) and total blindness (1, 0.7%). Thirty-eight (26.4%) children had received different durations of physiotherapy intervention due to impaired or delayed motor performance. Of 100 (69% of 144) children assessed at 18m corrected age, 63% were normal, 11% were below average (DMQ 70-89) and 26% were poor (DMQ<70) on PDMS. Of 77 (53% of 144) children assessed at 24m chronological age, 33%, 4% and 64% had normal, below average and poor GM performance, respectively. Chi-square tests showed that 83.6% of infants with a normal AIMS score at 4m corrected age had normal PDMS result (DMQ≥70 ) at 18m corrected age (p<0.001). On the other hand 92.3% of infants showing abnormal or suspicious AIMS score (≤16th percentile) at 8m corrected age had poor PDMS score at 24m chronological age (p=0.02). Logistic regression showed that infants with abnormal or suspicious AIMS results at 4m corrected age were 6.6 times (95% CI 2.4-18.5, p<0.001) as likely to have abnormal PDMS result at 18m corrected age . Infants with abnormal or suspicious AIMS results at 8m corrected age were 8.6 times (95% CI 1.1-70.3, p=0.045) as likely to have abnormal PDMS results at 24m chronological age. Conclusion Our study suggested that abnormal or suspicious AIMS scores at 8m corrected age predicted poor GM outcomes at 24m chronological age . Since most of the VLBW infants did not catch up with their GM development at 24m chronological age, we would suggest assessing the infants at 24m corrected age instead. Moreover there is also a service need to extend the follow up period especially for those with poor performance.