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Application of the prechtl's method on the qualitative assessment of general movements to predict neuromotor outcomes of premature babies at 1 year corrected age – study from a clinical facility in Dubai

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Background and purpose: The Prechtl's General movement assessment is a tool to identify infants at risk of abnormal neurodevelopmental outcomes especially cerebral palsy. More studies are needed to establish its effectiveness in clinical practice .The main objective of this study was to find the diagnostic accuracy of the Prechtl's general movement assessment to predict neuromotor outcomes of preterm babies at 1 year corrected age when done in regular clinical practice .The secondary objective was to find the inter rater reliability of general movement assessment between two raters in a clinical setting.

Methods: 116 preterm infants (55 females and 61 males) born below gestational age 35 weeks participated in this study. Prechtl's General movement assessment was done using a handheld video camera at two points of time – once between 33 to 40 weeks and later between 3- 4 months corrected age. Babies were reassessed at 12 months (±1week) corrected age using the Infant Neurological International Battery to identify neurological dysfunction. To find the inter rater reliability, 75 video recordings at preterm / term age and 73 recordings at fidgety age were viewed and rated independently by 2 raters.

Results: Statistical analysis using the Fishers exact test and Pearson's chi square test showed that there was significant association ($p<.001$) between the Prechtl's General movement assessment and neuromotor outcomes at 1 year. General movement assessment at preterm age and fidgety age showed sensitivity of 85.71% & 85.71%, specificity of 85.32% & 99.08%, positive predictive value of 27.27% & 85.71%, and negative predictive value of 98.4% & 99.08% in predicting neurological outcomes as measured by the Infant Neurological International Battery. Substantial agreement was found between two trained raters & kappa values were .78 and .72 for assessments done at preterm/ term age and that done at 3-4 months corrected age respectively

Conclusion: The results suggests that Prechtl's general movement assessment done in a clinical setting can predict neuromotor outcomes of preterm babies at 1 year corrected age and thus has practical application to identify premature babies who are at high risk of abnormal neurological development in infancy . Thus, general movements can be a valuable clinical tool to identify babies for early intervention services.

Biography

Mrs. Thanooja Naushad has done her masters in physiotherapy in the University of Jamia Hamdard. She worked as a physiotherapy lecturer in Gulf Medical University. Currently is a Senior physiotherapist at Latifa Women and Children Hospital, Dubai and is the first in the UAE to be certified as a Neonatal therapist. She has also published many articles.

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