B2

Comparison of Visual and Goniometric Assessment and Analysis of Inter Observer Difference in Assessing AmielTison Angles in High Risk Infants

Rajeswari Muthusamy, K.P.Rupasree, Sivakumar Ramachandran, C. Arockia Pramila
Sri Ramachandra Institute of Higher Education and Research (DU)
Porur. Chennai

Background: High risk infants (HRI) are more vulnerable to neurodevelopmental delay who require periodic developmental assessment at first year of life to prevent and identify the neuromotor deficit at an early age. Muscle tone evaluation is commonly performed with Amieltison angles (ATA) which act as an important weapon in screening HRI. Clinically visual method is widely followed in assessing ATA in HRI but erroneous interpretation of ATA might have consequences in identification and management of subtle tonal deviation. This study intends compare the visual and Goniometric assessment and inter observer difference in the assessment of muscle tone using ATA in HRI.

Method and Methodology: 37 HRI who met the inclusion criteria were included in the study when they returned back to child development unit for neurodevelopment assessment at 8 months. Two Physiotherapists with similar qualifications who work in the area of pediatrics participated in the study. After obtaining informed consent, the first assessor assessed the ATA visually followed by Goniometric assessment. Later ATA was assessed visually by the second assessor with a gap of one hour on the same day.

Results: Unpaired t test was used to compare the difference between goniometric and visual assessment which showed statistically significant difference with $p<0.05$. Intraclass correlation coefficient test was used to analyze the inter observer difference. Adductor and Heel to ear angles showed an excellent correlation and popliteal angle showed good correlation with ICC value of 0.97, 0.91and 0.79 respectively.

Conclusion: The result shows that interobserver difference of visual assessment is acceptable but emphasizes that the assessor should gain experience in visually assessing the angles trained initially by using goniometer to prevent erroneous interpretation which could reduce the difference between visual and goniometric estimates in the later stage.