Predicting neurodevelopmental outcomes for at-risk infants: Reliability and predictive validity using a Chinese version of the INFANIB at 3, 7 and 10 months

Wei Liao
The Third Military Medical University, China

Background: Chinese primary care settings have a heavy patient load, shortage of physicians, limited medical resources and low medical literacy, making it difficult to screen for developmental disorders in infants. The Infant Neurological International Battery (INFANIB) for the assessment of neuromotor developmental disorders in infants aged 0-18 months is widely applied in community health service centers because of its simplicity, time-saving advantages and short learning curve. We aimed to develop and assess a Chinese version of the INFANIB.

Methods: A Chinese version of the INFANIB was developed. 55 Preterm and 49 full-term infants with high risk of neurodevelopmental delays were assessed using the Chinese version of the INFANIB at 3, 7 and 10 months after birth. The Peabody Developmental Motor Scale (PDMS) was simultaneously used to assess the children with abnormalities and diagnose cerebral palsy. The sensitivity, specificity, positive predictive value and negative predictive value of the scale were calculated.

Results: At birth, a higher proportion of full-term infants had asphyxia (p<0.001), brain damage (p=0.003) and hyperbilirubinemia (p=0.022). The interclass correlation coefficient and intraclass correlation coefficient values for the INFANIB at 3, 7 and 10 months were >0.8, indicating excellent reliability with regard to inter- and intraobserver differences. The specificity, sensitivity, positive predictive value and negative predictive value were high for both high-risk premature infants and full-term infants at the age of 10 months. For premature infants at the age of 7 months or below, INFANIB had low validity for detecting abnormalities.

Conclusions: The Chinese version of the INFANIB can be useful for screening infants with high-risk for neuromotor abnormality in Chinese primary care settings.

liaowei01@163.com