Psychometric properties of the Developmental Assessment for Intervention Manual (DAIM) compared with Bayley Scales of Infant and Toddler Development, Third edition (Bayley-III) in high-risk infants at corrected age 12 months.

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Background: Developmental delay is a common problem in childhood. Early detection and early intervention can improve learning abilities, life skills, and quality of life. The Developmental Assessment for Intervention Manual (DAIM) have been established for assessment and monitoring of Thai children's developmental milestones. There has not been any study comparing the DAIM with the standard diagnostic test for psychometric property evaluation.

Objective: To evaluate sensitivity, specificity, positive predictive value, and negative predictive value of the Developmental Assessment for Intervention Manual (DAIM) developmental screening tool.

Methods: A total of 126, twelve-month corrected age infants with history of birth asphyxia or low birth weight (< 2,500 g) were enrolled from High-risk Pediatric Development Clinic during May, 2017 to December, 2021. The subjects' four domains of development (gross motor, fine motor, receptive language, and expressive language) were assessed using the DAIM and Bayley Scales of Infant and Toddler Development, Third edition (Bayley-III). The developmental outcomes from each tool were compared to evaluate for psychometric properties of the DAIM.

Results: The sensitivity, specificity, positive-predictive value, and negative predictive value of the DAIM were 83.3%, 75.4%, 26.3%, and 97.7%, respectively for gross motor; 57.1%, 88.2%, 22.2%, and 97.2% for fine motor; 55.0%, 74.5%, 28.9%, and 89.8% for receptive language; and 19.2%, 92.0%, 38.5%, and 81.4% for expressive language domains.

Conclusions: The DAIM developmental screening test demonstrated good specificity in every developmental domain. The sensitivity was good in gross motor domain.

Keywords: Bayley-III, DAIM, high-risk infants, psychometric property, developmental delay