Prospective evaluation of the ages and stages questionnaire third edition in very-low-birthweight infants

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Aim: To evaluate the predictive and concurrent diagnostic agreement of the Ages and Stages Questionnaire 3rd Edition (ASQ-3) with the Bayley Scales of Infant and Toddler Development 3rd Edition (Bayley-III) in infants born preterm and very-low-birthweight (PT/VLBW; ≤1250g).

Method: We evaluated 141 PT/VLBW infants (68 males, 73 females) born at the KK Women's and Children's Hospital between January 2010 and December 2011, to determine predictive and concurrent diagnostic agreement between the ASQ-3 at 9, 12, 18, and 24 months corrected age and Bayley-III at 24 months. Cut-offs on the ASQ-3 at 24 months were estimated by receiver operating characteristic curves.

Results: 60 (43%) and 25 (18%) failed in any domain of the ASQ-3 and Bayley-III (<70) respectively. A negative predictive value (NPV) >98% was achieved for the motor domain from 9 months, and >90% for the communication domain and the overall results at 24 months. Optimal referral ASQ-3 score at 24 months to achieve 100% NPV was 243.

Interpretation: In PT/VLBW infants, ASQ-3 screening at 24 months can reduce the need for costly psychometric assessments in children with normal results. Clinicians can be assured of normal motor development at nine months using the ASQ-3, but should continue to screen children on other domains.

Biography
Lourdes Mary Daniel is the Head and Senior Consultant in the Department of Child Development in KK Women’s and Children’s Hospital in Singapore. She is an Adjunct Associate Professor in the three medical schools in Singapore. She is a trained Neonatologist with 20 over years of experience in the NICU and with long term developmental follow-up of VLBW children. She was the Director of the universal newborn hearing program that has seen more than 100,000 newborns. She received her developmental training from the Kennedy Krieger Institute in Baltimore, Boston Children’s Hospital and the Harvard Graduate School of Education.

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