DEVELOPMENT AT THE AGE OF 2 AND 3 IN RELATION TO COGNITIVE ABILITIES AT THE AGE OF 5 IN VERY PRETERM CHILDREN

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Aims: This study investigates agreement between mental development at age 2 and 3 and cognitive development at age 5 in very preterm children, and the prediction of separate cognitive abilities at age 5 by development at toddler age.

Methods: Preterm born children (n=102, GA< 30 weeks and/or BW< 1000 grams) were assessed at age 2 and 3 using BSID-II, CBCL and Hempel neurological examination, and at age 5 using WPPSI-III (full scale, verbal and performance intelligence, processing speed).

Results: Agreement between mental development at age 2 and cognitive development at age 5 was substantial ($\kappa=0.48$) and between age 3 and age 5 moderate ($\kappa=0.40$). Mental development at age 2 and 3 explained half the variance of full scale and verbal intelligence. Performance intelligence and processing speed were less strongly associated with early mental development. Other areas of development at age 2 and 3 related to 5-year cognitive functioning when mental development was already accounted for, were behavior (full scale intelligence) and psychomotor and neurological functioning (processing speed). Perinatal and sociodemographic characteristics were associated with 5 year cognitive outcome as well.

Conclusions: Agreement between mental development at toddler age and cognitive development at age 5 is moderate to substantial. The prediction of full scale and verbal intelligence is reasonable, but performance and information processing abilities are more difficult to predict by early developmental assessment. Follow-up until at least age five is needed to be able to distinguish between different aspects of cognitive development, and reveal specific learning deficits.