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Parental educational level modulates the cognitive developmental outcome in infants with neonatal encephalopathy

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Aim: Despite advanced imaging and neurophysiological tests, prognostication of neurodevelopmental outcomes in NE is still not precise. Our aim was to consider the predictive value of Socio-Economic Status (SES) for developmental outcomes independent of physiological variables and disease severity in NE infants.

Methods: A cohort of 93 NE infants who had MRI examination with Barkovich scorings in the neonatal period were examined and prospectively followed until 16-42 months of age. Besides the registration of the Bayley Scales of Infant Development II, we collected SES variables, including combined parental education to reveal associations between SES and outcomes.

Results: At mean follow-up of 23.0 ± 6.7 months, higher parental education was strongly associated with good cognitive outcome (OR 2.20; 95% CI: 1.16-4.36), but not with motor outcome. One point for brain injury on neonatal MRI was associated with decreased odds for good cognitive outcome (OR 0.70; 95% CI: 0.50-0.89). In the subgroup of NE infants with any brain injury on MRI (n=21), literacy environment (OR 40; 95% CI: 3.7-1352) seems to have a marked effect on cognitive development.

Conclusions: Our results highlight the need to consider the SES factors besides the clinical ones in the prediction of cognitive outcomes in NE infants.

Biography

Zsuzsanna Varga is a cognitive psychologist who is working at the Pediatric Clinic, Division of Neonatology of the Semelweis University in Budapest, Hungary. She carries out developmental follow-up examinations in preterm infants and in infants born with Neonatal Encephalopathy (NE). Her research area is the cognitive development of infants born with NE. During her PhD years, she examined the event-related brain potential correlates of the language development of preterm and full-term infants.

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