Background and aims  Children born before 32 weeks of gestational age (GA) have increased risk of neurological, sensory, cognitive and behavioural problems. The latter become evident at school age, but follow-up is rarely continued up to this time. We present preliminary results of ongoing follow-up at school age of the Italian ACTION area-based cohort.

Methods  All infants born <32 weeks GA in 2003–2004 in three regions (Lazio, Tuscany and Friuli Venezia-Giulia) and survived to school-age were invited. The Kaufman Assessment Battery second edition (KABC-II) and selected items of NEPSY-II were used to assess cognitive and neuropsychological development. Only results for Lazio and Trieste area in FVG, where follow-up is already completed, are included (n 390, response rate 58%).

Results  Fifty-six percent of children (n 218) were males; 35% (1379 were ≤28 weeks GA. About 8% (n 30) had cerebral palsy; six children (1.5%) were blind or almost blind, and 12 (3.1%) required hearing aids. Twenty-two percent of children had KABC-II Mental Development Index (MDI) below average (29.9% in children born ≤28 weeks gestation, p = 0.008). Lower MDI scores were associated with impaired neuropsychological abilities.

Conclusions  While most children have cognitive level within normal range, lower KABC-II and NEPSY-II scores were found particularly in the more preterm group. Sensorimotor abilities were the most frequently compromised neuropsychological functions.

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The PPV of a combined aEEG-score was higher on d1 in the HT group than in the NT group and increased in both groups from d1-d3.

The lack of sleep-wake cycling in children treated with HT significantly correlated with severity of neuroimaging abnormalities (p = 0.05) and pathological outcome (p = 0.03). In contrast, there was no correlation between seizure activity and outcome.

Conclusions  Our results reflect published data, underlining the importance of aEEG as early outcome predictor in neonatal HIE.

PO-0391  LONGITUDINAL DEVELOPMENT OF LANGUAGE SKILLS IN PREMATURE INFANTS USING BAYLEY SCALES OF INFANT DEVELOPMENT-III. EFFECT OF PARENTAL EDUCATION

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Background  Preterm infants are at increased risk for language delay. Children in low socioeconomic status environments are exposed less often to experiences that promote language development. Parental education level has been associated with language scores.

Aim  To assess the influence of socio-demographic variables on the longitudinal development of language skills in a cohort of premature infants.

Method  Bayley-III scales were applied in 120 preterm infants (≤32 weeks) at a mean corrected age of 12 and 36 months. Preterm infants were divided in 2 groups according to their GA: A (n = 59, 24–28 wks), B (n = 61, 29–32 wks). All developmental assessments (n = 240) were performed by one researcher.

Results  Mean (SD) Bayley-III Language scores [composite (CSs) and Subscale: Receptive (RS), Expressive (ES)] for the 2 groups are shown in the table. Group B showed a significant increase in CSs and subscale RS, ES scores overtime while Group A scores were stable for the CS and ES. There was a significant correlation between CSs, RS, ES language scores and parental education level only for the group B. No correlation was found with other demographics or complications of prematurity.

Conclusion  Our findings argue that language development depends upon the grade of prematurity. ELBW infants show lower language performance not improving overtime as compared to VLBW. The more immature the less influence of parental education level. Very early language intervention with speech therapy may be especially important for the ELBW infants.

Abstract PO-0391 Table 1