

## Clinical Research– Senior Category

### Best Poster

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#### Cognitive Functioning in Late Preterm Singaporean Children

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**Aims:** Preterm birth is highly prevalent with a national rate of 9.5%. Compared to term infants born >37 weeks' gestation, preterm infants have higher risk of morbidity in cognition and executive functions (EF). EFs are a set of cognitive processes including attention and working memory that are crucial for learning. Limited studies have examined cognitive functioning in Singaporean children born late preterm (34 to 36-6/7 weeks' gestation).

**Methodology:** Using the Growing Up in Singapore Towards Healthy Outcomes (GUSTO) cohort, we compared the cognitive profiles of children born term and late preterm (N=462). Cognitive skills at age 2 and EF skills at age 5 were measured by standard scores in the Bayley Scales of Infant and Toddler Development and by T-scores in the Behaviour Rating Inventory of Executive Function, respectively. Standard scores have a mean of 100 (SD15) and T-scores have a mean of 50 (SD10). Higher T-scores indicate more EF problems (i.e. difficulty focusing, poor inhibition and memory). Linear regression models were performed to examine the association between late prematurity and cognition.

**Result:** Children born late pre-term (M=97.7, S=20.5) have similar cognitive scores compared to term controls (M=100.6, S=18.0);  $p=0.47$ ). However, late pre-terms (M=62.8, S=12.1) had significantly poorer EF scores than term controls (M=52.5, S=11.0;  $p<0.01$ ). After controlling for birth weight, gender, and maternal education, linear regression model showed that being born term ( $\beta$  2.14,  $p=0.03$ ) and a higher amount of home literacy activities at 12 months of age ( $\beta$  2.05,  $p=0.04$ ) resulted in improved EF.

**Conclusion:** Contrary to infants born <32 weeks' gestation, late preterm infants have cognitive skills similar to term controls. However, late prematurity has detrimental effects on EF. Home literacy activities result in better EF. Clinicians caring for these infants have a role in counselling families about potential EF deficits and about the importance of enriching language environment at home.