OP65 BIRTH SIZE DIFFERENCES BETWEEN WHITE BRITISH AND PAKISTANI ORIGIN INFANTS BY GENERATION: RESULTS FROM THE BORN IN BRADFORD COHORT STUDY

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Background There is a growing recognition that being born small is associated with risk of adult diseases such as Type 2 diabetes and cardiovascular disease, in addition to its known adverse effects on perinatal and infant outcomes. Previous studies have shown markedly lower birthweight among infants of South Asian origin compared to those of white British origin and there is a suggestion that such differences may mask greater central adiposity in South Asians. The greater risk of type 2 diabetes and cardiovascular disease in South Asian adults might therefore be related to a specific 'thin-fat' insulin resistant phenotype, but it is unclear at what age this phenotype develops, what its underlying causes are and whether it persists in contemporary UK populations.

Objective To describe differences in term birth size and cord blood leptin between Pakistani origin and white British origin infants and investigate whether any differences reduce in infants of UK born South Asian origin parents compared with those of South Asian born parents.

Design Birth cohort study (Born in Bradford (BiB)).

Setting Bradford, UK.

Participants 1838 white British and 2222 Pakistani mothers and their babies who were born between 2007 and 2009.

Main outcome measures Birthweight; head, arm and abdominal circumference; subscapular and triceps skinfolds; cord blood leptin.

Results Pakistani infants were lighter (mean difference 280.5g 95% CI 242.5 to 318.4) than white British infants and were smaller in all other measurements following adjustment for social-economic position and smoking. Differences were least for subscapular skinfold thickness (mean z-score difference −0.20 95% CI −0.29 to −0.11) and greatest for abdominal circumference (mean z-score difference −0.56 95% CI −0.64 to −0.47). Cord blood leptin was higher in Pakistani origin infants following adjustment for birthweight, mode of delivery and gestation (mean difference 2.99 ng/ml 95% CI 2.15 to 3.83). These differences were similar across Pakistani infants of different migration generation.

Conclusions All measures of birth size were smaller in Pakistani compared with white British infants. Differences were least for subscapular skinfold thickness than other measures and cord blood leptin was markedly higher in Pakistani origin infants suggesting that they have a tendency for greater central adiposity than white infants. The lack of difference across generation groups suggests that differences may be genetically determined or are affected by epigenetic or persisting behaviour characteristics.