obesity which may be more amenable to change, is a risk factor for obesity and chronic health conditions in adults.

Methods Socioeconomically disadvantaged children aged 4–7 y and their parents in Beer-Sheva were the study population in an intervention trial. We excluded those who refused, children with any chronic disease, developmental problems, in a weight reduction treatment and children or parents with any psychiatric problem. We measured twice weight and height of children and mothers in the mornings before breakfast, with light clothing and without shoes. Other data were obtained by personal interviews. Smoking and maternal perception of the child’s weight status will be examined using the baseline data.

Results Overall 18.5% and 11.3% of the children were overweight and obese, respectively. Overweight/obese (OWO) children were significantly taller, heavier and had more sedentary hours than non-OWO children. Mothers misclassified the child’s weight status in 82.3% and 42.4% of OWO and non-OWO children, respectively (p<0.001). In a multivariate logistic regression which included the child’s sedentary hours, maternal education and weight status, poverty status, only misclassification of the child’s weight status (OR 8.3, 2.7–25.9, p<0.001) and current parental smoking (OR 4.2, 1.6–11.4, p=0.005) were significant risk factors for OWO in LSES preschool children.

Conclusions Maternal misclassification of her child’s weight status and parental smoking may be determinants of the development of childhood obesity among LSES children. These associations should be confirmed in prospective studies.

P1:427 ASSOCIATIONS OF MATERNAL WEIGHT GAIN IN PREGNANCY WITH OFFSPRING COGNITION THROUGHOUT CHILDHOOD AND ADOLESCENCE

doi:10.1136/jech.2011.142976g.17

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Introduction Basic science evidence suggests that gestational weight gain (GWG) may influence offspring cognitive development. However, this relationship has not been investigated in human population studies.

Methods Data from the ALSPAC, a UK prospective pregnancy cohort were used. GWG was expressed using 2009 IOM categories of GWG and estimates from random effect linear spline models (median number of measures per woman: 10 IQR: 8–11). Outcomes were school entry assessment score (SEA, age 4, N=5532), Wisc-III assessed IQ (age 8, N=5191) and GCSE results (age 15, N=7339).

Results Offspring of women who gained less than the 2009 IOM recommended GWG had a -0.075SD lower mean SEA score (95% CI -0.127 to -0.025) compared with women who gained as recommended, even when adjusting for potential confounders including maternal education. Greater prepregnancy weight was inversely associated with all cognition measures. For example, mean difference in IQ per 1 kg increase in pre-pregnancy weight = -0.004SD (=-0.006, -0.002). GWG in early pregnancy (0–18 weeks) and in mid-pregnancy (19–28 weeks) were positively associated with SEA and IQ but not with GCSE results. GWG in late pregnancy (29 + weeks) was positively associated with higher SEA scores (0.205SD, 0.716, 0.261) and GCSE results (OR=1.35; 1.26, 1.46), with the latter not fully mediated by the association with SEA.

Conclusions Findings support a positive association between GWG, particularly in late gestation, and offspring cognitive development, which has lasting effects on school attainment at age 16 years. However this could still be due to residuals confounding.