ABSTRACT

INTRODUCTION: The intrauterine environment plays an important developmental role in obesity, both directly through effects on central regulators of metabolism, as well as through effects on early growth patterns that alter the child's long-term developmental trajectory. One prenatal factor linked to offspring obesity is prenatal maternal stress (PNMS), via effects of maternal stress hormones on the developing fetus.

Animal studies have linked prenatal maternal stress (PNMS) to offspring obesity via effects of maternal stress hormones on the developing fetus. The intrauterine environment plays an important developmental role in obesity risk, both directly through effects on central regulators of metabolism, as well as through effects on early growth patterns that alter the child's long-term developmental trajectory. One prenatal factor linked to offspring obesity is prenatal maternal stress (PNMS), via effects of maternal stress hormones on the developing fetus. The intrauterine environment plays an important developmental role in obesity risk, both directly through effects on central regulators of metabolism, as well as through effects on early growth patterns that alter the child's long-term developmental trajectory.

METHODS: The Iowa Flood Study was appended onto an existing study of pregnant women in Eastern Iowa. We re-recruited women from that study who were pregnant in June 2008 when disastrous floods occurred and who had completed a measure of social support before the flood. Within weeks of the flood, women completed self-report measures of PNMS; their objective (GDS, MADRS) and subjective (PDI, PDEQ, IES-R, COSMOSS) levels of depression and anxiety, their subjective levels of depression and anxiety, and the negative appraisal of consequences from a stressful event. The tested theoretical model was that social support (either Number of persons or support Satisfaction) would moderate the association between PNMS and birth weight, which in turn had a significant effect on BMI at 30 months. Probing this effect showed that low social support, a negative cognitive appraisal resulted in higher birth weight, which then predicted higher BMI at 30 months. However, no significant effect was detected for high social support.

RESULTS (CONTINUED):

CONCLUSIONS AND DISCUSSION:

- We examined the effect of prenatal maternal stress, birth weight, and social support on BMI in early childhood.
- For women with fewer support providers, a negative appraisal of the consequences of the flood predicted their children's higher BMI at 30 months through a higher birth weight.
- This effect was not observed in mothers with high social support for whom there was no association between their cognitive appraisals and the child's birthweight or BMI at 30 months.
- Similar effects were observed for maternal subjective distress (COSMOSS) and social support satisfaction.
- The results suggest that high social support acts as a buffer for maternal stress and the negative appraisal of consequences from a stressful event.

REFERENCES: