**METHODS**

*Study population*

The study data originated from the Cebu Longitudinal Health and Nutrition Survey (CLHNS), a longitudinal survey of 3,080 infants and their mothers who were recruited during their pregnancies between 1983-1984 in Metropolitan Cebu, Philippines. Out of the 1447 original female cohort infants, 823 were interviewed in a later 2009 survey (at ages 25-26). This additional survey tracked new pregnancies among these women between 2009-14. There were 383 who reported pregnancies (28% with 2-3 pregnancies) within the tracking period, yielding 507 pregnancy episodes. Women were visited in-home during pregnancy for anthropometric and questionnaire assessments, along with collection of a dried blood spot (DBS)—capillary whole blood collected on filter paper—for biomarker measurement. A second visit was arranged soon after delivery to obtain additional information from the mothers and to obtain phenotypic measures of their newborns. This research was conducted under conditions of written informed consent, and with approval of the Institutional Review Boards of Northwestern University (Evanston, Illinois), and the Office of Population Studies Foundation (Cebu, Philippines).

*Sample inclusion criteria*

Newborn anthropometric outcomes in these analyses included weight, length, head circumference, arm circumference, abdominal circumference, and sum of five skinfold thicknesses (triceps, subscapular, suprailiac, bicep and calf), which were measured in-home by trained interviewers using standardized procedures [reference later] as soon after birth as possible. The median and mean interval (in day) between birth and newborn anthropometry measurements were 3 and 4.5 days, respectively, with a range from 1 to 44 days. To minimize impacts of the infant’s environment and growth after birth, analyses of infants were limited to those measured within 2 weeks of birth and adjusted for age at measurement in models (this excluded 17 individuals measured more than 2 weeks after birth). Analyses were further limited to newborns born with gestational ages between 32 and 44 weeks, which excluded 5 very premature births and 2 implausibly late deliveries of around 46 weeks. Finally, newborn weight was predicted as a function of gestational age at birth and postnatal age at anthropometry measurement and excluded 3 individuals whose residuals were ≥3 standard deviations away from their predicted weights (e.g. individuals who were implausibly light for their gestational age at delivery and/or postnatal age at anthropometry measurement). After these exclusions, the final sample with all necessary biological and questionnaire data included 429 relatively healthy singletons born to 328 women. Regression models were clustered on mother to account for non-independence among siblings (see below).

*Maternal covariates*

We adjusted for mother’s age, parity, and triceps skinfold thickness, at the time that the pregnancy interview and DBS collection were completed, and adult stature that had been collected during previous assessments. Because both CRP and birth outcomes are potentially impacted by the mother’s adiposity, we also adjusted for the mother’s pre-pregnancy body mass index (BMI). Maternal socioeconomic status was measured using a pregnancy household assets scale reflecting whether the family had electricity, owned their home, owned an air conditioner, refrigerator, TV, vehicle and other appliances assessed, and a measure of household income that tallies all sources of income within the household (Adair et al 2011). Because women were enrolled in the birth outcome sub-study after they were pregnant, we used height and weight measurements collected during prior surveys to estimate pre-pregnancy BMI. We used 2009 BMI when available, and then used 2007 and 2005 data as necessary. Under the assumption that women will tend to maintain a stable position within the population BMI distribution even as the population mean increases with age, we converted all BMIs to age-specific within-sample Z-scores before pooling into a single pre-pregnancy BMI variable. Supporting the validity of this approach, the correlation between Z-scores for BMI measured in 2005 and 2009 was very high (r=0.84).

*Genome-wide DNA methylation analysis*

Samples were analyzed for…

*Calculation of epigenetic clocks*

*Statistical analysis*

All statistical analyses were conducted using Stata 13.0 (College Station, TX). We reported unadjusted means and standard deviations (or % for count variables) for the full sample and stratified on a median split of pregnancy CRP. We then ran a sequence of multivariate regression models (either linear or logistic) designed to assess relationships between maternal CRP and offspring gestational timing and weight, length, head circumference and sum of skinfolds measured soon after birth. All models were run with the *cluster* option in Stata, with clustering on mother’s ID, to account for the non-independence of siblings among women with multiple births in the analysis sample. CRP was right skewed and was therefore log-transformed before analysis. Because body fat can have both positive effects on birth outcomes (via nutrient supply) and negative effects on birth outcomes (via effects on pro-inflammatory cytokines) we assessed relationships between CRP and offspring outcomes before and after adjusting for maternal adiposity measures. Models predicting postnatal outcomes were adjusted for days after birth of anthropometry measurement, offspring gender, maternal parity and age during pregnancy visit and the mother’s adult height (coefficients not shown). Neither household assets nor income were close to significantly related to maternal CRP and adjusting for them did not substantially change model coefficients; we thus report each SES variable in the descriptive statistics for reference but omit them from models. To clarify the extent to which CRP influences offspring outcomes via effects on growth rate vs. gestational duration, we evaluated models before and after adjustment for gestational age at delivery. Finally, to evaluate a possible role of preeclampsia, we assessed whether coefficients relating CRP to offspring outcomes were attenuated after further adjustment for the mother’s systolic blood pressure measured during the pregnancy interview.