

265

USING HISTORICAL RECORDS TO RECONSTRUCT EARLY LIFE SOCIOECONOMIC STATUS: PRELIMINARY FINDINGS FROM A PILOT STUDY. *KM Rose and JS Perhac (University of North Carolina, Chapel Hill, NC, 27514).

We are studying the feasibility of using historical records as a source of data on early life socioeconomic status (SES) of decedents. We included 452 decedents from the Forsyth, NC field center of the Atherosclerosis Risk in Communities Study. Death certificate and social security application (SS-5) data were available for 99% and 96% of the decedents, respectively. We abstracted the information on parents' names, decedent's name, race, gender, date and place of birth. We used this information to attempt linkage to each decedent's birth certificate and declassified 1930 census record to obtain information on parental education, occupation and home ownership during his/her early childhood. We have done a preliminary search of the 1930 census records for 116 decedents born between 1923 and 1928. Matches were obtained for 75% of decedents. There was correspondence between the death record/SS-5 data and the census record on parents' names, decedent name, age, race, gender and state of birth of the decedent on almost all records. On those without complete correspondence, information was not missing on more than one of the match variables. SES information was virtually complete on all records. Information on home ownership, occupational status and literacy of parents was missing only on one record. All recorded occupations were codable into US census categories. Our findings suggest death certificates and SS-5 records contain data that is sufficient for successful linkage to census records. Furthermore, historical census records are a source of early life SES data that at least for the 1930 census, is virtually complete and easily accessible.

267-S

ASSOCIATION OF ORGANOPHOSPHATE PESTICIDE EXPOSURE DURING PREGNANCY AND FETAL GROWTH AND LENGTH OF GESTATION IN THE CHAMACOS COHORT. B. Eskenazi, *K. Harley, A. Bradman, E. Weltzien, N. Jewel and D. Barr. (University of California, Berkeley, CA 94720)

This study investigated whether increased exposure during pregnancy to organophosphates, a widely used class of agricultural pesticides, restricted fetal growth and/or shortened length of gestation. Subjects were participants in the Center for the Health Assessment of the Mothers and Children of Salinas (CHAMACOS), a longitudinal birth cohort study of the effects of pesticides and other environmental exposures in an agricultural population. The study population comprised 485 pregnant women receiving prenatal care at six clinics in the Salinas Valley region of California. Subjects were interviewed at the beginning of the second and third trimesters and urine samples were obtained. Second and third trimester organophosphate pesticide exposure was assessed by measuring six dialkyl phosphate (DAP) urinary metabolites using gas chromatography and mass spectrometry. These metabolites reflect exposure to most organophosphates but do not identify specific pesticides. Outcomes of interest were fetal growth, as assessed by weight, head circumference and crown-heel length at birth; proportionality of growth, as measured by ponderal index; and gestational age. We found no evidence that organophosphate pesticide exposure, as determined by total DAP metabolites, restricted fetal growth. No association was seen between these urinary pesticide metabolites and infant birth weight or ponderal index. Small but significant *increases* in gestational age and in head circumference and length controlling for gestational age were found with increasing pesticide metabolite levels.

266

THE WORLD TRADE CENTER DISASTER AND INTRAUTERINE GROWTH RESTRICTION. G. Berkowitz, *M. Wolff, T. Janevic, I. Holzman and P. Landrigan (Mount Sinai School of Medicine, New York NY 10029)

The fire and collapse of the World Trade Center (WTC) was the largest acute environmental disaster that ever has befallen New York City. The resulting toxicants included benzene, polycyclic aromatic hydrocarbons (PAHs), and heavy metals. To evaluate whether the toxic exposures and associated stress were associated with impaired fetal growth or other adverse pregnancy outcomes, we established a cohort of 187 pregnant women who were inside or near the WTC on 9/11. As a comparison group, we utilized all private patients who delivered at Mount Sinai Medical Center on the Upper East side of Manhattan during the same time period (n=2367). No significant differences were found for mean gestational age, mean birthweight, the frequency of preterm births, or incidence of low birth weight. However, the WTC cohort had an almost twofold (aOR=1.90, 95% CI=1.04 - 3.46) increased risk of intrauterine growth restriction (IUGR). No association was evident between post-traumatic stress symptomatology and pregnancy outcome. Previous studies have found associations between particulate air pollution and IUGR as well as preterm births. High levels of PAH-DNA adducts have also been associated with reduced birth size. Thus, it is possible that both the particulate as well as the PAH exposure affect intrauterine growth. Our observation of an apparent association between maternal exposure to the WTC disaster and IUGR suggests that this event had a detrimental impact on exposed pregnancies.

268

MATERNAL EXPOSURE TO INDOOR PESTICIDES, PARAOXONASE ACTIVITY, AND FETAL GROWTH. *G. Berkowitz, J. Wetmur, E. Birman-Deych, I. Holzman and M. Wolff (Mount Sinai School of Medicine, New York 10029)

Although the use of indoor pesticides in inner city homes of America is of considerable magnitude, little is known about the potentially adverse health effects of such exposure. Recent animal data suggest that exposure to pesticides during pregnancy and early life may impair growth and neurodevelopment in the offspring. To investigate the relationship among prenatal exposure to indoor pesticides, paraoxonase (PON1) polymorphisms and enzyme activity, and infant growth and development, we are conducting a prospective, multiethnic cohort study of mothers and infants delivered at Mount Sinai Hospital in New York City. This report evaluates the effects of pesticide exposure on birthweight, length, head circumference, and gestational age among 404 births between May 1998 and May 2002. Pesticide exposure was assessed by questionnaire data and by analysis of maternal metabolites of chlorpyrifos and pyrethroids. Neither the questionnaire data nor the pesticide metabolite levels were associated with any of the fetal growth indices or gestational age. However, when the level of maternal PON1 activity was taken into account, maternal levels of chlorpyrifos above the limit of detection coupled with low maternal PON1 activity were associated with a significant reduction in head circumference. In addition, maternal PON1 levels alone, but not PON1 genetic polymorphisms, were associated with reduced head size. Because small head size has been found to be predictive of subsequent cognitive ability, these data suggest that chlorpyrifos may have a detrimental effect on fetal neurodevelopment among mothers who exhibit low PON1 activity.

7

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