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INFERTILITY TREATMENT AND POSTPARTUM DEPRESSIVE SYMPTOMS IN MASSACHUSETTS. *Sarah Stone, Hafsatou Diop, Eugene Declercq, Howard Cabral, Lauren Wise (Boston University School of Public Health, Westwood MA 02090)

Background: The impact of successful infertility treatment (IFT) on the prevalence of postpartum depressive symptoms (PDS) is uncertain. Methods: We used the Massachusetts Pregnancy Risk Assessment Monitoring System (PRAMS) 2007-2010 data to evaluate whether IFT was associated with early PDS and subsequent help-seeking behaviors. We categorized IFTs into 3 groups: fertility-enhancing drugs (FD), donor insemination or intrauterine insemination (DI/IUI), and assisted reproductive technology (ART) including in vitro fertilization. We defined PDS as report of 'always' or 'often' to any depressive symptoms; reference group reported 'sometimes', 'rarely' or 'never' to all depressive symptoms. Modified Poisson regression models directly estimated prevalence ratios (PRs) and 95% confidence intervals (CIs), controlling for socioeconomic status indicators and prior mental health visits. Results: Among 3,509 participants in PRAMS during 2007-2010 who wanted pregnancy, 11.7% reported any IFT (FD = 6.0%, DI/ IUI = 2.6%, ART = 4.9%, weighted using SUDAAN). Reported IFT was not associated with an appreciable increase in prevalence of PDS (PR = 1.13, 95% CI 0.78-1.63). Grouped IFTs also showed no material increase in prevalence of PDS: FD PR = 1.14 (95% CI 0.58-2.24), DI/ IUI PR= 1.16 (95% CI 0.47-2.85), ART PR = 0.82 (95% CI 0.41-1.62. Among those with PDS, there was little evidence that any type of IFT predicted help-seeking behavior. Conclusions: IFT was not associated with increased prevalence of early PDS. Moreover, IFT did not predict help-seeking behavior among women with PDS. While reassuring women that IFT does not increase prevalence of PDS, all mothers should be continuously screened postpartum and encouraged to seek help for effective primary prevention of PDS.

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SPATIAL ANALYSIS OF GASTROSCHISIS IN TEXAS AND MASSACHUSETTS. *Mahsa M Yazdy, Veronica M Vieira, Peter H Langlois, Marlene Anderka, Martha M Werler (Slone Epidemiology Center at Boston University, Boston MA 02215)

Gastroschisis is a congenital malformation where loops of bowel are protruding from the abdominal wall. Previous research has suggested that gastroschisis cases can occur in clusters. The objective of this study was to identify clusters of gastroschisis in space or the combination of space and time. Cases of gastroschisis were identified from the birth defect registries in Massachusetts and Texas. In each state, a random sample of live-births was selected as controls. Generalized additive models (GAMs) were used to create a continuous map surface of odds ratios (OR) by smoothing over latitude and longitude. Using data from birth certificates, insurance status (MA only), maternal age, race/ethnicity, years of education, and cigarette smoking were assessed for adjustment. Permutation tests were used to assess the significance of location and identify locations with statistically significant increased or decreased ORs. In Massachusetts a statistically significant area of increased risk (OR = 2.4) was identified in the north-central part of the state. After adjustment for maternal age and race/ethnicity, the OR decreased to 1.3 and was no longer statistically significant (p-value: 0.07). In Texas, two statistically significant areas of increased risk (ORs = 1.6) were identified and remained significant (p-value <0.001) after adjustment for maternal age and race/ethnicity, though they were attenuated to 1.3 in these areas. Texas had sufficient data to assess the combination of space and time, which identified an increased risk (OR = 2.9) in the center of Texas in 2003. Exploration of possible artifactual, environmental, or behavioral factors in these areas may further our understanding of the etiology of gastroschisis.

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DEMOGRAPHIC, BEHAVIORAL, AND REPRODUCTIVE HISTORY DIFFERENCES BY MATERNAL WORKING STATUS BEFORE AND DURING PREGNANCY: IMPLICATIONS FOR REPRODUCTIVE STUDIES. *CM Rocheleau, SJ Bertke, CC Lawson, PA Romitti, TA Desrosiers, AJ Agopian, EM Bell, SM Gilboa (National Institute for Occupational Safety and Health, Cincinnati OH 45213)

Studies of occupational exposures among reproductive-aged women must address biases that could be caused by self-selection to employment. Data from controls in the National Birth Defects Prevention Study with births from 1997-2007 were used, representing a random sample of live births unaffected by birth defects. We compared personal and household characteristics of women who held any job during the 3 months prior to conception through the end of pregnancy (n = 5978, 71.7%) to those of women who did not hold any job in this period (n = 2365, 28.3%). Patterns of maternal work were also evaluated, including: frequency of part-time, full-time, and long work hours; job change; and job cessation. Most women who did not work during this period self-identified as homemakers/parents (80.4%) or students (14.1%); few reported being disabled (1.2%) or between jobs/unemployed (3.5%). Maternal age, parental race, parental nativity, parental education, and household income differed between families of working and nonworking women. Non-working women were more likely to be multiparous compared to working women (73.8% vs. 54.4%). Working women were more likely to have planned their index pregnancy and have used fertility drugs or treatments to conceive, however they were also more likely to report pregnancy risk behaviors including not using a folic acid supplement during the periconceptional period, smoking, drinking alcohol, and paternal (but not maternal) use of illicit drugs. These patterns could introduce bias in studies of occupational exposures in relation to reproductive outcomes that are not restricted to workers only.

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THE ROLE OF PRE-PREGNANCY BODY MASS INDEX AND GESTATIONAL WEIGHT GAIN IN PRENATAL AND POSTPARTUM DEPRESSION. *Karen Ertel, Tamarra James-Todd, Sheryl Rifas-Shiman, Ken Kleinman, Emily Oken, Janet Rich-Edwards, Matthew Gillman (University of Massachusetts Amherst, Amherst MA 01003)

In non-pregnant populations, overweight and obesity predict development of depression. This association has been less studied in the perinatal period; however, given the dramatic changes in weight experienced in the perinatal period and the high prevalence and important sequelae of perinatal depression, understanding these relationships is critical for promoting maternal and child health. Our objective was to examine the associations of pre-pregnancy body mass index (BMI) and gestational weight gain (GWG) with prenatal and postpartum depression. Study subjects were 1114 Boston-Area women in Project Viva, a prospective cohort study. We calculated P.BMI from self-reported weight and height and used NHLBI definitions to categorize underweight, normal, overweight, obese. GWG was the difference between weight at delivery and pre-pregnancy weight, classified according to 2009 Institute of Medicine recommendations. We assessed depression at mid-pregnancy and 6 months postpartum with the Edinburgh depression scale; score >12 indicated depression. The majority (63%) had normal BMI, 21.9% were overweight, and 11.9% were obese. Ninety (8.1%) women experienced prenatal depression and 57 (5.1%) experienced postpartum depression without prenatal depression. In multivariable logistic regression models adjusted for sociodemographic and health factors, being overweight (v. normal weight) before pregnancy was associated with elevated odds of prenatal depression (OR = 1.9; 95% confidence interval (CI):1.2-3.3) but not postpartum (OR = 0.8; 95% CI: 0.4, 1.8). Obese BMI was associated with postpartum depression (OR= 2.3; 95% CI: 1.1-4.6) but not prenatal OR = 1.1; 95% CI 0.5, 2.3). We did not detect an association of GWG with prenatal or postpartum depression or an interaction between BMI and GWG. Being overweight or obese before pregnancy may increase risk of perinatal depression, suggesting the importance of pre-pregnancy and inter-partum efforts to achieve a healthy weight.