

trends of prescription medication use were analysed. Since the sample size was insufficient for reliable statistical analysis, a descriptive report of the prescription drug utilisation patterns was created.

RESULTS: • MATERNAL MEDICATION

Out of 400, there were 90 (22.5%) women taking prescription medications and 44 (11%) on no medications. There were 266 (66.5%) women on folic acid and/or vitamin D alone. The live birth rate of the women on prescription medications was 32.2% (n=29). The live birth rate of the 44 women on no medications was 29.5% (n=13). The live birth rate of the women on folic acid and/or vitamin D was 33.5% (n=89).

There were a total of 60 different medications at an average of 1.4 per patient.

The most common medications were asthma medications (n=22), levothyroxine (n=12), selective serotonin re-uptake inhibitors (SSRIs) (n=10), ferrous sulphate (n=8), and diabetic medications (n=7).

Food and Drug Administration categories: 1 medication and 12 prescriptions at Category A. Category B: 20 medications and 29 prescriptions. Category C: 25 medications and 62 prescriptions. Category D: 6 medications and 6 prescriptions. Category X: 1 medications and 1 prescription.

• PATERNAL MEDICATION

Out of 400, 88 male partners were on prescription medication (22%). The live birth rate for those on medication was 30.7% (n=27) compared to those not on medication 33.0% (n=103).

• SMOKING

Female: out of 376, 19 smoked (5.1%) averaging 6.1 per day (Standard Deviation (SD) 4.47). Live birth rate in the smokers was 21.1% (n=4) compared to non-smokers, 30.5% (n=109).

Male: Out of 316 male patients, 44 smoked (13.9%) averaging 8.3 per day (SD 6.9). The live birth rate in smokers was 27.3% (n=12) compared to 32.0% (n=101).

• ALCOHOL

Female: out of 275, 178 drank alcohol (47.5%), averaging 5.8 units per week (SD 5.6). The live birth rate in drinkers was 28.1% (n=50) compared to 36.5% (n=72).

Male: out of 375, 240 drank alcohol (64%), averaging 9.1 units per week (SD 8.2). The live birth rate in drinkers was 33.8% (n=81) compared to 30.4% (n=41).

CONCLUSIONS: The study found that a large number of women are prescribed category C, D or X drugs when attempting ART. The effect these drugs have on the success of ART is unclear. More information is required in order to expand these results and help counsel couples on prescription drug use, smoking and alcohol consumption.

SUPPORT: None.

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DIETARY CADMIUM INTAKE AND FECUNDABILITY IN A NORTH AMERICAN PRECONCEPTION COHORT STUDY.

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OBJECTIVE: To evaluate the association between dietary cadmium intake (D-Cd) and fecundability. Diet is one of the main sources of cadmium, and D-Cd is often used as indicator of cadmium exposure, particularly in non-smoking populations. In a previous preconception cohort study of 501 couples,¹ high female cadmium concentrations measured in whole blood were associated with reduced fecundability.

DESIGN: Prospective cohort study (2013-2018).

MATERIALS AND METHODS: Pregnancy Online Study (PRESTO) is a North American prospective preconception cohort of pregnancy planners. At baseline, female participants aged 21-45 years completed a web-based questionnaire on demographic, lifestyle, medical and reproductive factors. Ten days after enrollment, participants completed the National Cancer Institute Dietary History Questionnaire II, a validated food frequency questionnaire (FFQ) of average intake during the previous year. D-Cd ($\mu\text{g}/\text{day}$) was estimated by combining FFQ responses with US Food and Drug Administration data on food cadmium content. Participants were then followed for up to 12 months or until reported pregnancy, whichever came first. The analysis included 4,768 women attempting to conceive for ≤ 6 cycles at study entry

and not using fertility treatment. We used a proportional probabilities regression model to estimate fecundability ratios (FR) and 95% confidence intervals (CI), adjusted for age, body mass index (BMI), smoking history, parity, physical activity, last method of contraception, daily use of multivitamins, race/ethnicity, education, income, geographic region, and the 2010 healthy eating index score. We used the nutrient residual approach to adjust for energy intake.

RESULTS: Median D-Cd was 8.0 $\mu\text{g}/\text{day}$ (interquartile range: 7.0-9.1 $\mu\text{g}/\text{day}$). The top 5 contributors to D-Cd were nuts and seeds; fried potatoes; dark green lettuce; cooked greens; and white potatoes. Compared with an average D-Cd of $<6.8 \mu\text{g}/\text{day}$, FRs for D-Cd quintiles of 6.8-7.6, 7.7-8.4, 8.5-9.5, and $\geq 9.6 \mu\text{g}/\text{day}$ were 1.03 (CI: 0.92-1.14), 1.07 (CI: 0.96-1.18), 1.07 (CI: 0.96-1.19), and 1.08 (0.97-1.20), respectively. Results were not appreciably different among never smokers with no current passive smoke exposure, for whom cadmium exposure from other sources (e.g., cigarettes) would be lower (respective FRs: 1.02, 1.05, 1.06 and 1.02). Results did not differ materially by age (<30 vs. ≥ 30 years), BMI (<30 vs. $\geq 30 \text{ kg}/\text{m}^2$), total fiber intake (<25 vs. $\geq 25 \text{ g}/\text{day}$), geographic region of residence (West, Midwest, Northeast, South, Canada), or attempt time at study entry (<3 vs. ≥ 3 cycles).

CONCLUSIONS: Dietary intake of cadmium was not appreciably associated with fecundability, though exposure misclassification and confounding could explain the null results.

References: ¹ Buck Louis GM, Sundaram R, Schisterman EF, Sweeney AM, Lynch CD, Gore-Langton RE, Chen Z, Kim S, Caldwell KL, Barr DB. Heavy metals and couple fecundity, the LIFE Study. *Chemosphere*. 2012 Jun;87(11):1201-7. <https://doi.org/10.1016/j.chemosphere.2012.01.017>. Epub 2012 Feb 4. PubMed PMID: 22309709; PubMed Central PMCID: PMC3327819.

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ACCURACY OF SELF-REPORTED MENSTRUAL CYCLE CHARACTERISTICS AND INFERTILITY IN A COHORT HIGHLY EXPOSED TO ENDOCRINE-DISRUPTING COMPOUNDS (EDCs).

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OBJECTIVE: To determine whether reproductive health outcomes are associated with changes in menstrual function among women within the Michigan Polybrominated Biphenyl (PBB) Registry.

DESIGN: Cross-sectional survey of women in the Michigan PBB Registry.

MATERIALS AND METHODS: In 1973, accidental contamination of livestock feed with PBB led to the Michigan Health Department establishing a registry of highly exposed individuals who have been followed for >40 years. Women who were not pregnant, breastfeeding, using hormonal medications, developmentally disabled, diagnosed with cancer, amenorrheic ³ three months, or with prior hysterectomy were recruited into a menstrual function study. 176 women completed a reproductive health survey, obtained daily morning urine samples throughout 4 menstrual cycles, and completed 6 months of daily menstrual cycle diaries. The morning urine samples were analyzed for Estrone-3-glucuronide (E13G), Pregnanediol-3-glucuronide (Pd3G), mid-cycle creatinine, and day of luteal transition (DLT). We used a nested mixed linear model to quantify the accuracy of menstrual cycle data and to test for association between endometriosis, infertility, and urinary hormone metabolites.

RESULTS: Women's self-reported cycle and bleed length correlated accurately with their actual cycle length (p=0.002) and bleed length (p=2.31E-13) from urinary metabolite data. Women with self-reported endometriosis were noted to have higher preovulatory E₁3G (p=0.001), mid-luteal E₁3G (p=0.0006), and overall luteal phase E₁3G (p=0.033) levels. Women with self-reported infertility were noted to have higher mid-luteal E₁3G (p=0.019) and overall luteal phase E₁3G (p=0.008) levels.

CONCLUSIONS: Women with self-reported diagnoses of endometriosis and infertility showed statistically significant changes in their menstrual function urinary metabolites. Additionally, this study found that the self-