**Associations of Maternal Preterm Birth with Subsequent Risk for Type 2 Diabetes in Women from the Women’s Health Initiative**

**Short title: Maternal Preterm Birth and Risk for T2D**

**SUPPLEMENTARY MATERIALS**

Aaron Holman-Vittone, Brian Monahan, Erin S. LeBlanc, Simin Liu, Rami Nassir, Nazmus Saquib, Peter F. Schnatz, Aladdin H. Shadyab, Rachel Sinkey, Jean Wactawski-Wende, Robert A. Wild, Lisa Chasan-Taber, JoAnn E. Manson, Cassandra N. Spracklen

|  |
| --- |
| **Supplementary Table 1: Relationship between being born preterm and incident self-reported type 2 diabetes among postmenopausal women in the WHI, stratified by birthweight** |
|  | **Birthweight Category** |
| **< 6 lbs.** **HR (95% CI)** | **6-7.9 lbs.HR (95% CI)** | **8-9.9 lbs.** **HR (95% CI)** | **≥ 10 lbs.** **HR (95% CI)** |
| **N (T2D Cases)** | 7,404 (1,040) | 48,988 (6,605) | 14,561 (2,019)  | 2,479 (355) |
| **Type 2 Diabetes** |  |  |  |  |
|  | Unadjusted (T2D cases=10,019) | 1.06 (0.92, 1.23) | 0.80 (0.56, 1.15) | 0.92 (0.30, 2.86) | --- |
|  | Adj for Demographics (T2D cases=6,790) | 1.06 (0.90, 1.25) | 0.77 (0.51, 1.15) | 1.01 (0.33, 3.14) | --- |
|  | Adj for Demographics & Lifestyle Factors (T2D cases=6,592) | 1.04 (0.88, 1.22) | 0.78 (0.52, 1.17) | 1.09 (0.35, 3.40) | --- |
| Referent group for each analytical model is full term births. There were an insufficient number of preterm participants born weighing ≥10 pounds, as expected; therefore, these results are left blank. Demographic factors include age, race, ethnicity, normalized socioeconomic status, education, region, and family history of diabetes. Lifestyle factors include BMI, smoking status, and alcohol use. |

|  |
| --- |
| **Supplementary Table 2: Relationship between being born preterm and incident self-reported type 2 diabetes among postmenopausal women in the WHI, stratified by self-reported race/ethnicity** |
|  | **Race** | **Ethnicity** |
| **AsianHR (95% CI)** | **Black HR (95% CI)** | **WhiteHR (95% CI)** | **OtherHR (95% CI)** | **Hispanic/Spanish/LatinxHR (95% CI)** | **Not Hispanic/****Spanish/LatinxHR (95% CI)** |
| **N (T2D cases)** | 1,807 (257) | 7,749 (1,062) | 69,662 (9,418) | 1,187 (200) | 3,755 (556) | 77,746 (10,521) |
| **Type 2 Diabetes** |  |  |  |  |  |  |  |
|  |  Unadjusted (T2D cases=11,077) | 0.89 (0.37, 2.15) | 1.13 (0.78, 1.65) | 1.50 (0.92, 1.19) | 1.08 (0.48, 2.43) | 1.18 (0.72, 1.94) | 1.04 (0.92, 1.18) |
|  |  Adj for Birthweight (T2D cases = 9,956) | 0.97 (0.38, 2.48) | 1.06 (0.69, 1.62) | 1.04 (0.90, 1.20) | 0.85 (0.35, 2.05) | 0.98 (0.57, 1.69) | 1.02 (0.89, 1.18) |
|  |  Adj for Demographics (T2D cases = 7,529) | 1.11 (0.41, 3.01) | 1.33 (0.89, 1.98) | 1.00 (0.87, 1.16) | 1.15 (0.47, 2.80) | 1.64 (0.90, 3.00) | 1.04 (0.90, 1.22) |
|  |  Adj for Demographics & Birthweight (T2D cases=6,790) | 1.39 (0.48, 4.04) | 1.16 (0.73, 1.84) | 0.99 (0.84, 1.16) | 1.08 (0.40, 2.88) | 1.35 (0.69, 2.66) | 0.99 (0.84, 1.18) |
|  | Adj for Demographics & Lifestyle Factors (T2D cases = 7,307) | 1.24 (0.45, 3.37) | 1.36 (0.91, 2.03) | 0.99 (0.86, 1.15) | 1.19 (0.49, 2.93) | 1.74 (0.95, 3.20) | 1.04 (0.89, 1.21) |
|  | Adj for Demographics & Lifestyle Factors & Birthweight (T2D cases = 6,592) | 1.38 (0.47, 4.02) | 1.20 (0.76, 1.91) | 0.97 (0.82, 1.14) | 1.10 (0.41, 2.98) | 1.46 (0.74, 2.89) | 0.98 (0.83, 1.16) |
|  | Referent group is full term births. Due to small sample sizes, we were unable to consider other self-identified race categories in the stratified analyses, which include: Native Hawaiian/Other Pacific Islander, American Indian/Alaskan Native, and multi-racial. Demographic factors include age, normalized socioeconomic status, education, region, and family history of diabetes. Lifestyle factors include BMI, smoking status, and alcohol use.  |

|  |
| --- |
| **Supplementary Table 3: Relationship between being born preterm and incident self-reported type 2 diabetes among postmenopausal women in the WHI, stratified by age group at enrollment** |
|  | **Age group at enrollment** |
| **<50-59yrOR (95% CI)** | **60-69yrOR (95% CI)** | **70-79+yrOR (95% CI)** |
| **N**  | 26,650 (3,696) | 35,727 (4,935) | 19,202 (2,516) |
| **Type 2 Diabetes** |  |  |  |
|  | Unadjusted (T2D cases=11,147) | 1.00 (0.83, 1.21) | 1.01 (0.84, 1.23) | 1.18 (0.89, 1.56) |
|  | Adj for Birthweight (T2D cases=10,019) | 1.00 (0.81, 1.24) | 0.98 (0.80, 1.21) | 1.12 (0.82, 1.53) |
|  | Adj for Demographics (T2D cases=9,410) | 0.91 (0.73, 1.14) | 1.10 (0.90, 1.34) | 1.19 (0.89, 1.60) |
|  | Adj for Demographics & Birthweight (T2D cases=8,506) | 0.89 (0.70, 1.14) | 1.09 (0.87, 1.36) | 1.11 (0.79, 1.55) |
|  | Adj for Demographic & Lifestyle Factors (T2D cases=9,143) | 0.90 (0.71, 1.12) | 1.09 (0.89, 1.34) | 1.22 (0.90, 1.64) |
|  | Adj for Demographic & Lifestyle Factors & Birthweight (T2D cases=8,269) | 0.87 (0.68, 1.12) | 1.07 (0.86, 1.35) | 1.12 (0.80, 1.58) |

Referent group for each analytical model is full term births. Demographic factors include age, race, ethnicity, normalized socioeconomic status, education, region, and family history of diabetes. Lifestyle factors include BMI, smoking status, and alcohol use.

**FIGURES**

****

**Supplementary Figure 1**. Flow chart of subject selection from WHI for the prevalent and incident analyses. Abbreviations: CT, clinical trial; OS, observational study; T2D, type 2 diabetes; WHI, Women’s Health Initiative