

Parent, et al. MS Thesis Submission

Supplemental Tables

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Supplemental Table 1. Neonatal outcomes and the operation-to-birth (OTB) interval in mothers who had a bariatric operation prior to conception.^a

Footnotes:

a: Categorical variables are presented as n(%). Data obtained from Washington State Birth Certificates from 1980-2013, linked with maternal hospital discharge data from the Comprehensive Hospital Abstract Reporting System (CHARS).

b: Adjusted relative risk and 95% confidence interval, using Poisson regression with model structure 1) exposure: operation-birth interval, 2) outcomes: as listed above, and 3) maternal covariates: categorical variables for birth year, race, education, parity, pre-pregnancy body-mass index and linear spline variables for age, and income. Missing BMI values were imputed.

c: Neonatal Intensive Care Unit

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Supplemental Table 2. All assessed neonatal outcomes and the 'operation-to-birth interval' in mothers who had a bariatric operation prior to conception.^a

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c: Neonatal Intensive Care Unit admission

d: Congenital malformation defined by ICD-9 codes 740-756

e: Small/Large for Gestational Age

f: "Appearance, Pulse, Grimace, Activity, Respiration" score, to quickly summarize newborn health

g: Cesarean section

Supplemental Table 1. Neonatal outcomes and the operation-to-birth (OTB) interval in mothers who had a bariatric operation prior to conception.^a

| OTB interval (years) | Prematurity | aRR^b | 95% CI^b | NICU^c admission | aRR^b | 95% CI^b | SGA^d | aRR^b | 95% CI^b |
|-----------------------------|--------------------|------------------------|---------------------------|-----------------------------------|------------------------|---------------------------|------------------------|------------------------|---------------------------|
| ≥ four (n=272) | 32 (12) | 1.00 | Reference | 33 (12) | 1.00 | Reference | 25 (9) | 1.00 | Reference |
| two-four (n=302) | 33 (11) | 0.93 | 0.59-1.46 | 21 (10) | 0.87 | 0.55-1.38 | 43 (14) | 1.67 | 1.04-2.68 |
| < two (n=378) | 65 (17) | 1.48 | 1.00-2.19 | 67 (18) | 1.54 | 1.05-2.25 | 48 (13) | 1.51 | 0.94-2.42 |

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Supplemental Table 2. All assessed neonatal outcomes and the 'operation-to-birth interval' in mothers who had a bariatric operation prior to conception.^a

| Birth interval | Premature | aRR ^b | 95% CI ^b | | NICU ^c | aRR ^b | 95% CI ^b | | Malform ^d | aRR ^b | 95% CI ^b | | SGA ^e | aRR ^b | 95% CI ^b | |
|-------------------|-----------|------------------|---------------------|------|-------------------|------------------|---------------------|------|----------------------|------------------|---------------------|------|------------------|------------------|---------------------|------|
| >=4 years (n=272) | 32 (12) | 1.00 | Reference | | 33 (12) | 1.00 | Reference | | 54 (20) | 1.00 | Reference | | 25 (9) | 1.00 | Reference | |
| 2-4 years (n=302) | 33 (11) | 0.93 | 0.59 | 1.46 | 21 (10) | 0.87 | 0.55 | 1.38 | 52 (17) | 0.84 | 0.60 | 1.19 | 43 (14) | 1.67 | 1.04 | 2.68 |
| <2 years (n=378) | 65 (17) | 1.48 | 1.00 | 2.19 | 67 (18) | 1.54 | 1.05 | 2.25 | 76 (20) | 0.96 | 0.70 | 1.32 | 48 (13) | 1.51 | 0.94 | 2.42 |
| missing (n=907) | 131 (14) | 1.13 | 0.78 | 1.64 | 136 (15) | 1.23 | 0.86 | 1.77 | 221 (24) | 1.14 | 0.86 | 1.50 | 106 (12) | 1.61 | 0.99 | 2.57 |

| Birth interval | LGA ^e | aRR ^b | 95% CI ^b | | APGAR ^f ≤8 @ 5 min | aRR ^b | 95% CI ^b | | birth injury | aRR ^b | 95% CI ^b | | fetal/infant mortality | aRR ^b | 95% CI ^b | |
|-------------------|------------------|------------------|---------------------|------|-------------------------------|------------------|---------------------|------|--------------|------------------|---------------------|------|------------------------|------------------|---------------------|------|
| >=4 years (n=272) | 22 (8) | 1.00 | Reference | | 43 (16) | 1.00 | Reference | | 6 (2) | 1.00 | Reference | | 4 (2) | 1.00 | Reference | |
| 2-4 years (n=302) | 18 (6) | 0.70 | 0.39 | 1.29 | 55 (18) | 1.18 | 0.82 | 1.70 | 8 (3) | 1.11 | 0.38 | 3.22 | 3 (1) | 0.69 | 0.15 | 3.09 |
| <2 years (n=378) | 29 (7) | 0.97 | 0.56 | 1.68 | 70 (19) | 1.19 | 0.84 | 1.69 | 15 (4) | 1.50 | 0.56 | 3.97 | 5 (1) | 0.94 | 0.26 | 3.41 |
| missing (n=907) | 53 (5) | 0.65 | 0.40 | 1.05 | 158 (18) | 1.10 | 0.79 | 1.52 | 21 (2) | 1.12 | 0.45 | 2.75 | 15 (2) | 0.77 | 0.24 | 2.50 |

| Birth interval | C-section ^g | aRR ^b | 95% CI ^b | | vacuum or forceps | aRR ^b | 95% CI ^b | | fetal distress | aRR ^b | 95% CI ^b | | precipitous labor | aRR ^b | 95% CI ^b | | prolonged labor | aRR ^b | 95% CI ^b | |
|-------------------|------------------------|------------------|---------------------|------|-------------------|------------------|---------------------|------|----------------|------------------|---------------------|------|-------------------|------------------|---------------------|------|-----------------|------------------|---------------------|------|
| >=4 years (n=272) | 100 (37) | 1.00 | Reference | | 15 (6) | 1.00 | Reference | | 13 (5) | 1.00 | Reference | | 8 (3) | 1.00 | Reference | | 2 (1) | 1.00 | Reference | |
| 2-4 years (n=302) | 107 (35) | 0.97 | 0.78 | 1.20 | 18 (6) | 1.03 | 0.54 | 1.96 | 16 (5) | 1.02 | 0.50 | 2.08 | 11 (4) | 1.37 | 0.57 | 3.27 | 3 (1) | 1.27 | 0.22 | 7.28 |
| <2 years (n=378) | 133 (35) | 0.98 | 0.80 | 1.20 | 17 (5) | 0.69 | 0.35 | 1.33 | 17 (5) | 0.92 | 0.45 | 1.88 | 7 (2) | 0.81 | 0.29 | 2.28 | 6 (2) | 1.79 | 0.38 | 8.32 |
| missing (n=907) | 417 (46) | 1.11 | 0.93 | 1.33 | 21 (2) | 0.42 | 0.22 | 0.98 | 51 (6) | 0.97 | 0.52 | 1.81 | 21 (2) | 0.93 | 0.41 | 2.11 | 12 (1) | 1.33 | 0.88 | 6.12 |

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