**Supplementary Table 1**. Comparisons between children who did and did not have telomere length measured.

|  |  |  |
| --- | --- | --- |
|  | Telomere length measured (n=1202) | No telomere length measured (n=1533) |
|  |  |  |
| **Maternal characteristics** | mean (SD) or n (%) | mean (SD) or n (%) |
| Age (years) | 28.97 (5.77) | 27.28 (5.93)a |
| *Population/race* |  |  |
| Caucasian (European descent) | 1088 (90.5%) | 1264 (82.5%)a |
| Other | 111 (9.2%) | 269 (17.5%) |
| Missing | 3 (0.2%) | - |
| *Highest Level of Education* |  |  |
| None | 551 (45.8%) | 838 (54.7%)a |
| Further/Vocational Training | 238 (19.8%) | 219 (14.3%) |
| Tertiary Studies | 341 (28.4%) | 343 (22.4%) |
| Other | 69 (5.7%) | 133 (8.7%) |
| Missing | 3 (0.2%) | - |
| *Smoking status (16-18 weeks’ gestation)* |  |  |
| None | 928 (77.2%) | 1015 (66.2%)a |
| 1 - 10 per day | 271 (22.5%) | 265 (17.3%) |
| ≥11 per day | 3 (0.2%) | 194 (12.7%) |
| Missing | - | 59 (3.8%) |
| *Alcohol status (16-18 weeks’ gestation)* |  |  |
| None | 615 (51.3%) | 844 (57.3%)b |
| Any drinking during pregnancy | 584 (48.7%) | 630 (42.7%) |
| *Family Income (1989-1991) (AUD)* |  |  |
| < $36,000 | 735 (61.1%) | 373 (24.3%)a |
| ≥$36,000 | 417 (34.7%) | 986 (64.3%) |
| Missing | 50 (4.2%) | 115 (7.5%) |
| *Treated for either Diabetes or Gestational Diabetes* |  |  |
| No | 1169 (97.3%) | 1484 (96.8%) |
| Yes | 33 (2.7%) | 49 (3.2%) |
| *Gestational Diabetes* |  |  |
| No | 1175 (97.8%) | 1444 (94.2%) |
| Yes | 24 (2%) | 29 (1.9%) |
| Missing | 3 (0.2%) | 60 (3.9%) |
| *Pre-term birth (<37 weeks’ gestation)* |  |  |
| No | 1114 (92.7%) | 1409 (91.9%) |
| Yes | 85 (7.1%) | 124 (8.1%) |
| Missing | 3 (0.2%) | - |
| *Preeclampsia* |  |  |
| No | 929 (77.3%) | 1223 (79.8%) |
| Yes | 269 (22.4%) | 310 (20.2%) |
| Missing | 4 (0.3%) | - |
| *Any maternal complication* |  |  |
| No | 861 (71.6%) | 1156 (75.4%)b |
| Yes | 341 (28.4%) | 377 (24.6%) |
| *Any maternal and/or birth complication* |  |  |
| No | 755 (62.8%) | 948 (61.8%) |
| Yes | 447 (37.2%) | 585 (38.2%) |
| **Infant characteristics** |  |  |
| *Birthweight (mean, SD)* | 3328.79 (592) | 3245.21 (646.65)b |
| Male / Female | 621 (51.7%) / 581 (48.3%) | 766 (49.9%)/ 767 (50.1%) |
| *Macrosomia (*≥ *4000 g)* |  |  |
| No / Yes | 1089 (90.6%) / 113 (9.4%) | 1400 (91.32%) / 133 (8.68%) |
| *Low Birth Weight (< 2500 g)* |  |  |
| No / Yes | 1110 (92.3%) / 92 (7.7%) | 1380 (90%)/ 153 (10%)b |

Comparison between continuous variables is by t-tests and for categorical variables is chi-square; a P<0.0001; b P<0.05

**Supplementary Table 2**: Estimated means for telomere length in the 17 year old females.

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | **Model 0** | | | **Model 1** | | | **Model 2** | | |
|  | **Predicted telomere length** | **Lower 95% CI** | **Upper 95% CI** | **Predicted telomere length** | **Lower 95% CI** | **Upper 95% CI** | **Predicted telomere length** | **Lower 95% CI** | **Upper 95% CI** |
| **Gestational diabetes** |  |  |  |  |  |  |  |  |  |
| No | 1.40 | 1.34 | 1.46 | 1.31 | 1.11 | 1.50 | 1.31 | 1.12 | 1.50 |
| Yes | 1.27 | 0.84 | 1.69 | 1.19 | 0.75 | 1.62 | 1.19 | 0.75 | 1.62 |
| **Preeclampsia** |  |  |  |  |  |  |  |  |  |
| No | 1.44 | 1.38 | 1.50 | 1.35 | 1.25 | 1.46 | 1.35 | 1.25 | 1.46 |
| Yes | 1.26 | 1.14 | 1.38 | 1.19 | 1.03 | 1.34 | 1.19 | 1.03 | 1.34 |
| **Preterm birth** |  |  |  |  |  |  |  |  |  |
| No | 1.41 | 1.35 | 1.47 | 1.34 | 1.23 | 1.44 | 1.34 | 1.23 | 1.44 |
| Yes | 1.29 | 1.10 | 1.49 | 1.21 | 0.99 | 1.43 | 1.16 | 0.90 | 1.42 |
| **Low birthweight** |  |  |  |  |  |  |  |  |  |
| No | 1.4 | 1.34 | 1.46 | 1.33 | 1.23 | 1.43 | 1.33 | 1.23 | 1.44 |
| Yes | 1.35 | 1.16 | 1.53 | 1.28 | 1.07 | 1.49 | 1.25 | 0.98 | 1.51 |
| **Macrosomia** |  |  |  |  |  |  |  |  |  |
| No | 1.4 | 1.34 | 1.46 | 1.33 | 1.23 | 1.44 | 1.33 | 1.23 | 1.44 |
| Yes | 1.34 | 1.15 | 1.53 | 1.25 | 1.03 | 1.47 | 1.23 | 0.99 | 1.48 |
| **Maternal complication** |  |  |  |  |  |  |  |  |  |
| No | **1.44** | **1.38** | **1.51** | **1.37** | **1.26** | **1.48** | **1.37** | **1.26** | **1.48** |
| Yes | **1.27** | **1.17** | **1.38** | **1.21** | **1.07** | **1.35** | **1.20** | **1.06** | **1.34** |
| **Maternal and/or birth complication** |  |  |  |  |  |  |  |  |  |
| No | **1.45** | **1.38** | **1.52** | **1.38** | **1.27** | **1.49** | **1.38** | **1.27** | **1.49** |
| Yes | **1.30** | **1.21** | **1.39** | **1.22** | **1.09** | **1.35** | **1.22** | **1.09** | **1.35** |

**Supplementary Table 3**: Estimated means for telomere length in the 17 year old males.

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | **Model 0** | | | **Model 1** | | | | **Model 2** | | |
|  | **Predicted telomere length** | **Lower 95% CI** | **Upper 95% CI** | | **Predicted telomere length** | **Lower 95% CI** | **Upper 95% CI** | **Predicted telomere length** | **Lower 95% CI** | **Upper 95% CI** |
| **Gestational diabetes** |  |  |  | |  |  |  |  |  |  |
| No | 1.42 | 1.36 | 1.47 | | 1.35 | 1.16 | 1.54 | 1.36 | 1.17 | 1.55 |
| Yes | 1.39 | 1.03 | 1.74 | | 1.37 | 0.96 | 1.78 | 1.37 | 0.96 | 1.79 |
| **Preeclampsia** |  |  |  | |  |  |  |  |  |  |
| No | 1.42 | 1.36 | 1.48 | | 1.45 | 1.34 | 1.55 | 1.45 | 1.34 | 1.55 |
| Yes | 1.41 | 1.30 | 1.52 | | 1.44 | 1.29 | 1.58 | 1.45 | 1.30 | 1.59 |
| **Preterm birth** |  |  |  | |  |  |  |  |  |  |
| No | 1.41 | 1.36 | 1.47 | | 1.44 | 1.34 | 1.54 | 1.44 | 1.34 | 1.54 |
| Yes | 1.51 | 1.29 | 1.72 | | 1.54 | 1.28 | 1.80 | 1.63 | 1.34 | 1.92 |
| **Low birthweight** |  |  |  | |  |  |  |  |  |  |
| No | 1.43 | 1.38 | 1.49 | | 1.46 | 1.36 | 1.56 | 1.46 | 1.36 | 1.56 |
| Yes | 1.24 | 1.03 | 1.45 | | 1.23 | 0.99 | 1.47 | 1.18 | 0.89 | 1.48 |
| **Macrosomia** |  |  |  | |  |  |  |  |  |  |
| No | 1.42 | 1.36 | 1.47 | | 1.45 | 1.34 | 1.55 | 1.45 | 1.35 | 1.55 |
| Yes | 1.43 | 1.26 | 1.60 | | 1.46 | 1.26 | 1.65 | 1.42 | 1.20 | 1.63 |
| **Maternal complication** |  |  |  | |  |  |  |  |  |  |
| No | 1.42 | 1.36 | 1.48 | | 1.45 | 1.35 | 1.56 | 1.45 | 1.34 | 1.55 |
| Yes | 1.41 | 1.31 | 1.51 | | 1.44 | 1.30 | 1.57 | 1.45 | 1.31 | 1.59 |
| **Maternal and/or birth complication** |  |  |  | |  |  |  |  |  |  |
| No | 1.43 | 1.37 | 1.50 | | 1.46 | 1.35 | 1.57 | 1.46 | 1.35 | 1.57 |
| Yes | 1.39 | 1.31 | 1.48 | | 1.42 | 1.29 | 1.55 | 1.42 | 1.29 | 1.55 |