**Supplementary Table 2. Parameters estimates of linear mixed models assessing associations between gestational diabetes mellitus subtype and longitudinal change rate in estimated fetal weight (g) of twin pregnancies.**

| **Parameters** | **Categories** | **β (95% CI) a** | ***P* value** |
| --- | --- | --- | --- |
| Intercept | NA | 313.54 (237.93, 389.16) | <0.001 |
| Gestational diabetes mellitus  | Do not require medication | -3.798 (-22.20, 14.61) | 0.686 |
|  | Medication required | -12.54 (-68.69, 43.61) | 0.662 |
|  | No gestational diabetes mellitus | 0 [Reference] | NA |
| Gestational week | NA | 156.36 (148.05, 164.67) | <0.001 |
| Gestational diabetes mellitus × Gestational week | Do not require medication | 4.45 (1.32, 7.59) | 0.008 |
|  | Medication required | 1.40 (-9.04, 11.83) | 0.786 |
|  | No gestational diabetes mellitus | 0 [Reference] | NA |
| Fetal chorionicity | Monochorionic diamnionicity | 0 [Reference] | NA |
|  | Dichorionic diamnionity | 30.75 (15.14, 46.35) | <0.001 |
| Neonatal sex | Male | 24.79 (13.75, 35.83) | <0.001 |
|  | Female | 0 [Reference] | NA |
| In-vitro fertilization | No | 0 [Reference] | NA |
|  | Yes | 26.43 (13.76, 39.10) | <0.001 |
| Age | NA | -0.30 (-1.80, 1.20) | 0.699 |
| BMI | NA | 1.56 (-0.22, 3.33) | 0.085 |
| Oral glucose tolerance test 1h | NA | 4.03 (-1.73, 9.79) | 0.170 |
| Oral glucose tolerance test 2h | NA | -1.86 (-8.30, 4.58) | 0.571 |

NA, not applicable; CI, confidence interval.

a β and 95% confidence interval were estimated using linear mixed models, controlling for correlated repeated measurements and cluster the correlation within twin pairs, by using a 2-level nested structure. Adjusted covariates included maternal age, BMI, mode of conception, OGTT results fetal chorionicity and neonatal sex.

**Supplementary Table 3. Model fitting statistics of group-based trajectory modeling approach for analyzing longitudinal trajectories of estimated fetal weight.**

|  |  |
| --- | --- |
| **Model settings** | **Model fitting statistics (the lower the better model fitting)** |
| **AIC** | **BIC** |
| Two trajectories model | 19639.14991 | 19669.12535 |
| Three trajectories model (applied in the current study) | 17594.57887 | 17649.07967 |
| Four trajectories model  | 17604.24055 | 17658.74135 |
| Five trajectories model | 18477.46675 | 18523.79243 |

AIC, Akaike Information Criterion; BIC, Bayesian Information Criterion.