Supplementary information 2. Coefficients for conventional customized curves12, and new CC(18.5-25) prediction models for optimal weight. Factors included in the final stepwise models.

|  |  |  |
| --- | --- | --- |
| Model | Custumized curves  | New Custumized curves (**18.5-25)** |
| Constant | 3289.681  |  3304.579 |
| Maternal height (MH, cm) (from 163) | 9.392 | 6.987 |
| Maternal weight (MW, kg) (from 65) |  |  |
| Linear | 4.856 | 7.510 |
| Squared | -0.098 | - |
| Cubed | 0.001 | - |
| Parity (Birth ≥ 1) | 113.889 | 113.530 |
| Ethnic origin |  |  |
| East-Asia | 165.560 | 143.461 |
| South America | 161.550 | 134.161 |
| Rest of Europe | 67.927 | 68.934 |
| North Africa | 109.265 | 62.447 |
| GA (weeks) (from 40) |  |  |
| Linear | 135.413 | 134.457 |
| Squared | -14.063 | -13.435 |
| Cubed | -0.838 | -0.803 |
| Sex |  |  |
| Male | 67.188 | 67.552 |
| Female | -67.188 | -67.552 |
| Interactions |  |  |
| GA (linear) with | Sex | 6.890 | 8.501 |
| Parity (Birth ≥ 1) | 9.032 | 11.300 |
| MH (cubed) | 0.006 | 0.008 |
| MW (squared) | 0.260 | - |
| GA (squared) with | MH (linear) | -0.378 | - |
| MH (squared) | -0.008 | -0.011 |
| GA (cubed) with | MH (linear) | -0.032 | - |
| Mean square error | 144630.076 | 133659.796 |
| R2 | 0.454 | 0.451 |
| Coefficient of variation (cv) | 0.1156 | 0.1106 |

BMI: body mass index; GA: gestational age; sd: standard deviation.