Supplementtary information 1. Maternal and newborn characteristics of the sample used to construct

 customized fetal and neonatal weight tables and curves.

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|  | Original CC(n = 20,331) | New CC(18.5-25)(n = 11,604) |
|  |  |  |
| Maternal age (years) mean (sd); median | 28.5 (6.1); 29.0 | 28.4 (6.2); 29.0 |
| Primiparous: n (%) | 14012 (68.7) | 8354 (72.0) |
| BMI: (kg/m2) n (%) |  |  |
|  < 16 Severe thinness | 43 (0.2) |  |
|  16-17 Moderate thinness | 167 (0.8) |  |
| 17-18.5 Acceptable thinness | 781 (3.8) |  |
| 18.5-25 Normal weight | 11604 (57.1) | 11604 (100) |
| 25-30 Overweight | 4939 (24.3) |  |
|  30-35 Type I obesity | 1937 (9.5) |  |
| 35-40 Type II obesity | 854 (4.2) |  |
| > 40 Type III obesity | 6 (0.03) |  |
| Height (cm): mean (sd); median | 162.6 (6.2); 163.0 | 162.7 (6.2); 163.0 |
| Weight (kg): mean (sd); median | 65.3 (13.7); 63.0 | 58.4 (6.2); 58.0 |
| Ethnic origin: n (%) |  |  |
| Spain | 16958 (83.1) | 9669 (83.3) |
| Rest of Europe | 566 (2.3) | 323 (2.8) |
| Sub-Saharan Africa | 197 (1.0) | 80 (0.7) |
| North Africa | 824 (4.0) | 311 (2.7) |
| South America | 1522 (7.5) | 920 (7.9) |
| North America | 24 (0.1) | 19 (0.2) |
| Asia | 400 (2.0) | 282 (2.4) |
| GA (days); mean (sd); median | 277.9 (13.0); 280.0 | 277.6 (12.7); 280.0 |
| Newborn weight (g); mean (sd); median | 3254.4 (514.4); 3270 | 3221.9 (493.1); 3240 |
| Sex: n (%) |  |  |
| Male | 9900 (48.7) | 5651 (48.7) |
| Female | 10431 (51.3) | 5953 (51.3) |

CC: original model of customized curves12; CC(18.5-25): customized curves calculated with women with normal pre-pregnancy BMI.

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