

Supplementary Table 1. Classifications of Body mass index (BMI).

Classifications	Chinese BMI classification criteria	WHO Asian BMI classification criteria	WHO European BMI classification criteria
underweight	<18.5	<18.5	<18.5
normal weight	18.5–23.9	18.5–22.9	18.5–24.9
overweight	24–27.9	23.0–27.4	25.0–29.9
obese	≥28.0	≥27.5	≥30.0

Supplementary Table 2. Classifications of gestational weight gain (GWG) according to the Chinese, WHO Asian or WHO European maternal early pregnancy BMI status and the 2009 IOM GWG recommendations.

Classifications	Chinese BMI classification (<18.5)	Chinese BMI classification(18.5≤BMI≤23.9)	Chinese BMI classification(24≤BMI≤27.9)	Chinese BMI classification (≥28)
Classifications	Asian BMI classification (<18.5)	Asian BMI classification(18.5≤BMI≤22.9)	Asian BMI classification(23≤BMI≤27.4)	Asian BMI classification (≥27.5)
Classifications	WHO BMI classification (<18.5)	WHO BMI classification(18.5≤BMI≤24.9)	WHO BMI classification(25≤BMI≤29.9)	WHO BMI classification (≥30)
insufficient	GWG<12.5	GWG<11.5	GWG<7	GWG<5
appropriate	12.5≤GWG≤18	11.5≤GWG≤16	7≤GWG≤11.5	5≤GWG≤9
excessive	GWG>18	GWG>16	GWG>11.5	GWG>9

Supplementary Table 3. Classifications of gestational weight gain (GWG) according to quantiles of GWG.

Classifications	Quantiles of GWG (classifications 1)	Quantiles of GWG (classifications 2)
insufficient	<P ₅	<P ₁₀
appropriate	P ₅ –P ₉₅	P ₁₀ –P ₉₀
excessive	>P ₉₅	>P ₉₀

Supplementary Table 4. Adjusted *OR* (95% *CI*) for pregnancy outcomes by based on quantiles of 12–33 gestational week GWG.

Pregnancy	GWG	Adjusted <i>OR</i> (95% <i>CI</i>) GWG category
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outcomes		GWG classification 1	GWG classification 2
PROM	insufficient	1.11 (0.54-2.25)	1.04(0.64-1.69)
	appropriate	1 (reference)	1 (reference)
	excessive	0.57 (0.27-1.21)	0.64 (0.37-1.12)
C-section	insufficient	1.17 (0.62-2.19)	1.22 (0.79-1.88)
	appropriate	1 (reference)	1 (reference)
	excessive	1.65 (0.91-2.98)	1.07 (0.67-1.71)
PTB	insufficient	0.94 (0.22-4.12)	1.07 (0.40-2.84)
	appropriate	1 (reference)	1 (reference)
	excessive	0.48 (0.06-3.65)	0.29 (0.04-2.13)
Macrosomia	insufficient	0.65 (0.14-2.97)	0.50 (0.16-1.51)
	appropriate	1 (reference)	1 (reference)
	excessive	1.04 (0.24-4.57)	1.90 (0.83-4.32)
LBW	insufficient	1.29 (0.13-13.24)	1.10 (0.22-5.59)
	appropriate	1 (reference)	1 (reference)
	excessive	0.00 (0.00- -)	0.00 (0.00--)
LGA	insufficient	0.70 (0.23-2.12)	0.53 (0.23-1.24)
	appropriate	1 (reference)	1 (reference)
	excessive	1.90 (0.77-4.70)	2.26 (1.19-4.27)*
SGA	insufficient	2.66 (1.06-6.68)*	2.16 (1.11-4.23)*
	appropriate	1 (reference)	1 (reference)
	excessive	0.33 (0.07-1.54)	0.60 (0.23-1.59)

Values are odds ratios (95% confidence intervals), * $p<0.05$, ** $p<0.01$, *** $p<0.001$.

Adjusted for maternal age, Han ethnicity, primiparity, history of miscarriage or abortion, maternal educational level, participant and partner's income, maternal occupation status, gestational age at delivery, new born sex and body mass index (continuous). PROM, C-section and PTB was not adjusted for gestational age at delivery and new born sex.

Abbreviations: GWG: gestational weight gain, *OR*: Odds ratios, *CI*: confidence intervals, PROM: premature rupture of membrane, C-section: cesarean section, PTB: preterm birth, LBW: low birth weight, LGA: large for gestational age, SGA: small for gestational age.

Supplementary Table 5. Adjusted *OR* (95% *CI*) for pregnancy outcomes by based on quantiles of 12-delivery gestational week GWG.

Pregnancy outcomes	GWG	Adjusted <i>OR</i> (95% <i>CI</i>) GWG category	
		GWG classification 1	GWG classification 2
PROM	insufficient	1.34 (0.63-2.87)	0.98 (0.56-1.72)
	appropriate	1 (reference)	1 (reference)
	excessive	0.12 (0.03-0.52)**	0.44 (0.24-0.83)*
C-section	insufficient	1.03 (0.49-2.19)	0.98 (0.56-1.71)
	appropriate	1 (reference)	1 (reference)
	excessive	2.42 (1.21-4.83)*	2.46 (1.48-4.09)**
PTB	insufficient	1.24 (0.27-5.80)	2.75 (1.11-6.81)*
	appropriate	1 (reference)	1 (reference)

	excessive	0.00 (0.00--)	0.00 (0.00--)
Macrosomia	insufficient	0.26 (0.03-2.33)	0.18 (0.02-1.51)
	appropriate	1 (reference)	1 (reference)
	excessive	1.03 (0.22-4.87)	2.82 (1.17-6.80)*
LBW	insufficient	4.27 (0.60-30.37)	3.95 (0.76-20.64)
	appropriate	1 (reference)	1 (reference)
	excessive	0.00 (0.00--)	2.65 (0.25-28.29)
LGA	insufficient	0.35 (0.07-1.61)	0.31 (0.09-1.09)
	appropriate	1 (reference)	1 (reference)
	excessive	3.73 (1.57-8.86)**	3.38 (1.75-6.54)***
SGA	insufficient	2.61 (0.84-8.08)	1.48 (0.59-3.70)
	appropriate	1 (reference)	1 (reference)
	excessive	1.26 (0.37-4.39)	0.71 (0.24-2.06)

Values are odds ratios (95% confidence intervals), * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$.

Adjusted for maternal age, Han ethnicity, primiparity, history of miscarriage or abortion, maternal educational level, participant and partner's income, maternal occupation status, gestational age at delivery, new born sex and body mass index (continuous). PROM, C-section and PTB was not adjusted for gestational age at delivery and new born sex.

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Supplementary Table 6. Adjusted OR (95% CI) for pregnancy outcomes by based on quantiles of 33-delivery gestational week GWG.

Pregnancy outcomes	GWG	Adjusted OR (95% CI) GWG category	
		GWG classification 1	GWG classification 2
PROM	insufficient	0.64 (0.27-1.55)	1.21 (0.69-2.13)
	appropriate	1 (reference)	1 (reference)
	excessive	0.31 (0.11-0.89)*	0.69 (0.39-1.20)
C-section	insufficient	0.78 (0.35-1.73)	0.63 (0.35-1.16)
	appropriate	1 (reference)	1 (reference)
	excessive	1.91 (0.93-3.93)	1.76 (1.07-2.90)*
PTB	insufficient	0.78 (0.10-6.13)	2.99 (1.13-7.90)*
	appropriate	1 (reference)	1 (reference)
	excessive	0.76 (0.10-5.81)	0.36 (0.05-2.69)
Macrosomia	insufficient	0.00 (0.00--)	0.32 (0.04-2.53)
	appropriate	1 (reference)	1 (reference)
	excessive	1.77 (0.53-5.94)	1.18 (0.44-3.17)
LBW	insufficient	2.95 (0.11-82.53)	2.21 (0.30-16.10)
	appropriate	1 (reference)	1 (reference)
	excessive	0.00 (0.00--)	2.30 (0.22-24.25)
LGA	insufficient	0.32 (0.04-2.44)	0.54 (0.19-1.59)
	appropriate	1 (reference)	1 (reference)

SGA	excessive	1.96 (0.75-5.15)	1.06 (0.48-2.37)
	insufficient	1.05 (0.27-4.09)	0.50 (0.14-1.82)
	appropriate	1 (reference)	1 (reference)
	excessive	1.49 (0.43-5.15)	1.10 (0.45-2.71)

Values are odds ratios (95% confidence intervals), * $p<0.05$, ** $p<0.01$, *** $p<0.001$.

Adjusted for maternal age, Han ethnicity, primiparity, history of miscarriage or abortion, maternal educational level, participant and partner's income, maternal occupation status, gestational age at delivery, new born sex and body mass index (continuous).

PROM, C-section and PTB was not adjusted for gestational age at delivery and new born sex.

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