

The pattern of gestational weight gains among Chinese women: a repeated measure analysis

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Supplementary Information

Table S1-S3 Smoothed percentiles of GWG for pregnant women with pre-pregnancy underweight (BMI <18.50 kg/m²), normal weight (BMI 18.50-22.99 kg/m²) and overweight (BMI 23.00-27.49 kg/m²), respectively.

Table S4 Sensitivity analysis of the ranges and rates of GWG stratified by pre-pregnancy BMI categories

Table S5 The ranges and rates of GWG using the IOM standard for pre-pregnancy

Figure S1(Figure S1a, S1b, S1c) The 5th (bottom dashed line), 50th (middle), and 95th (top) estimated trajectories for GWG among underweight (a), normal (b), overweight (c) women. Large blue circles show empirical values at each gestational week. Small grey circles represent actual observations

Table S1 Smoothed percentiles for GWG for women with pre-pregnancy underweight (BMI <18.50) according to gestational age

Gestational age (weeks)	No of measures	Percentiles for GWF (kg)				
		5th	25th	50th	75th	95th
10	23	-1.01	-0.46	-0.08	0.30	0.85
11	120	-1.21	-0.46	0.05	0.57	1.32
12	267	-1.42	-0.47	0.18	0.84	1.79
13	216	-1.62	-0.48	0.32	1.11	2.25
14	166	-1.83	-0.48	0.45	1.38	2.72
15	165	-1.37	0.06	1.05	2.04	3.47
16	219	-0.91	0.61	1.66	2.70	4.22
17	213	-0.45	1.15	2.26	3.37	4.97
18	195	0.01	1.70	2.86	4.03	5.72
19	153	0.47	2.24	3.47	4.69	6.47
20	161	0.93	2.79	4.07	5.36	7.22
21	182	1.38	3.33	4.67	6.02	7.96
22	168	1.84	3.88	5.28	6.68	8.71
23	162	2.30	4.42	5.88	7.34	9.46
24	174	2.76	4.96	6.49	8.01	10.21
25	273	3.22	5.51	7.09	8.67	10.96
26	162	3.68	6.05	7.69	9.33	11.71
27	178	4.14	6.60	8.30	10.00	12.46
28	245	4.60	7.14	8.90	10.66	13.21
29	223	5.06	7.69	9.51	11.32	13.95
30	324	5.52	8.23	10.11	11.99	14.70
31	321	5.97	8.78	10.71	12.65	15.45
32	316	6.43	9.32	11.32	13.31	16.20
33	270	6.89	9.87	11.92	13.98	16.95
34	419	7.35	10.41	12.52	14.64	17.70
35	405	7.81	10.96	13.13	15.30	18.45
36	573	8.27	11.50	13.73	15.96	19.20
37	658	8.56	11.85	14.12	16.39	19.68
38	589	8.85	12.20	14.51	16.82	20.17
39	302	9.13	12.54	14.90	17.25	20.66
40	82	9.42	12.89	15.29	17.68	21.15

Abbreviations: GWG, gestational weight gain; BMI, body mass index

Table S2 Smoothed percentiles for GWG for women with pre-pregnancy normal weight (BMI 18.50-22.99) according to gestational age

Gestational age (weeks)	No of measures	Percentiles for GWF (kg)				
		5th	25th	50th	75th	95th
10	113	-0.77	-0.39	-0.13	0.14	0.52
11	519	-0.98	-0.40	0.01	0.41	1.00
12	1278	-1.20	-0.41	0.14	0.69	1.48
13	1074	-1.41	-0.41	0.28	0.97	1.97
14	783	-1.63	-0.42	0.41	1.24	2.45
15	799	-1.19	0.10	1.00	1.89	3.19
16	926	-0.75	0.63	1.59	2.55	3.93
17	1027	-0.32	1.16	2.18	3.20	4.67
18	919	0.12	1.69	2.77	3.85	5.41
19	694	0.56	2.21	3.36	4.50	6.15
20	683	1.00	2.74	3.95	5.15	6.90
21	824	1.44	3.27	4.54	5.80	7.64
22	865	1.87	3.80	5.13	6.45	8.38
23	715	2.31	4.33	5.72	7.11	9.12
24	873	2.75	4.85	6.31	7.76	9.86
25	1164	3.19	5.38	6.89	8.41	10.60
26	751	3.63	5.91	7.48	9.06	11.34
27	779	4.07	6.44	8.07	9.71	12.08
28	1214	4.50	6.96	8.66	10.36	12.82
29	1015	4.94	7.49	9.25	11.01	13.56
30	1457	5.38	8.02	9.84	11.66	14.30
31	1443	5.82	8.55	10.43	12.32	15.04
32	1520	6.26	9.07	11.02	12.97	15.79
33	1212	6.70	9.60	11.61	13.62	16.53
34	1984	7.13	10.13	12.20	14.27	17.27
35	1952	7.57	10.66	12.79	14.92	18.01
36	2731	8.01	11.19	13.38	15.57	18.75
37	3006	8.31	11.54	13.77	16.00	19.24
38	2723	8.60	11.89	14.16	16.44	19.73
39	1534	8.90	12.25	14.56	16.87	20.21
40	474	9.20	12.60	14.95	17.30	20.70

Abbreviations: GWG, gestational weight gain; BMI, body mass index

Table S3 Smoothed percentiles for GWG for women with pre-pregnancy overweight (BMI 23.00-27.49) according to gestational age

Gestational age (weeks)	No of measures	Percentiles for GWF (kg)				
		5th	25th	50th	75th	95th
10	8	-1.82	-0.80	-0.10	0.61	1.63
11	37	-1.79	-0.70	0.05	0.81	1.89
12	89	-1.75	-0.59	0.21	1.01	2.16
13	76	-1.72	-0.49	0.36	1.20	2.43
14	67	-1.69	-0.39	0.51	1.40	2.70
15	59	-1.30	0.09	1.05	2.01	3.41
16	77	-0.92	0.57	1.60	2.63	4.11
17	67	-0.53	1.05	2.14	3.24	4.82
18	62	-0.14	1.53	2.69	3.85	5.53
19	50	0.24	2.01	3.24	4.46	6.23
20	54	0.63	2.49	3.78	5.07	6.94
21	51	1.01	2.97	4.33	5.68	7.64
22	65	1.40	3.46	4.88	6.29	8.35
23	52	1.79	3.94	5.42	6.91	9.06
24	80	2.17	4.42	5.97	7.52	9.76
25	76	2.56	4.90	6.51	8.13	10.47
26	47	2.94	5.38	7.06	8.74	11.17
27	56	3.33	5.86	7.61	9.35	11.88
28	105	3.72	6.34	8.15	9.96	12.59
29	77	4.10	6.82	8.70	10.57	13.29
31	111	4.49	7.30	9.24	11.19	14.00
32	107	4.87	7.78	9.79	11.80	14.70
33	95	5.26	8.26	10.34	12.41	15.41
34	151	5.65	8.74	10.88	13.02	16.12
35	134	6.03	9.22	11.43	13.63	16.82
36	208	6.42	9.70	11.97	14.24	17.53
37	225	6.80	10.19	12.52	14.85	18.23
38	205	7.11	10.57	12.95	15.34	18.80
39	97	7.42	10.95	13.39	15.83	19.36
40	32	7.72	11.33	13.82	16.32	19.92

Abbreviations: GWG, gestational weight gain; BMI, body mass index

Table S4 Sensitivity analysis of the ranges and rates of GWG stratified by pre-pregnancy BMI categories

Pre-pregnancy BMI Category	P₂₅-P₇₅ GWG (kg)	P₅-P₉₅ GWG (kg)	Rates of GWG at 10-14 weeks (kg/month)	Rates of GWG at 14-36 weeks (kg/month)	Rates of GWG after 36 weeks (kg/month)
Underweight	12.7-17.5	9.2-20.9	0.58	2.63	1.69
Normal weight	12.4-17.1	9.0-20.5	0.59	2.56	1.71
Overweight	11.4-16.6	7.7-20.3	0.65	2.37	1.89

Note: We adjusted for the influence of maternal age, education level, gravidity, parity and use of IVF.

Abbreviations: GWG, gestational weight gain; BMI, body mass index; IVF, in vitro fertilization

Table S5 The ranges and rates of GWG using the IOM standard for pre-pregnancy

Pre-pregnancy BMI Category	P₂₅-P₇₅ GWG (kg)	P₅-P₉₅ GWG (kg)	Rates of GWG at 10-14 weeks (kg/month)	Rates of GWG at 14-36 weeks (kg/month)	Rates of GWG after 36 weeks (kg/month)
Underweight	12.9-17.7	9.4-21.1	0.53	2.42	1.55
Normal weight	12.5-17.3	9.0-20.8	0.56	2.34	1.58
Overweight	11.1-15.6	7.9-18.8	0.35	2.01	1.86

Notes: IOM BMI standard is used for developing the ranges and rates of GWG, and the pre-pregnancy BMI cut-offs for underweight, normal weight and overweight are $< 18.5 \text{ kg/m}^2$, $18.5\text{-}24.9 \text{ kg/m}^2$, $25.0\text{-}29.9 \text{ kg/m}^2$ respectively.

Abbreviations: GWG, gestational weight gain; BMI, body mass index

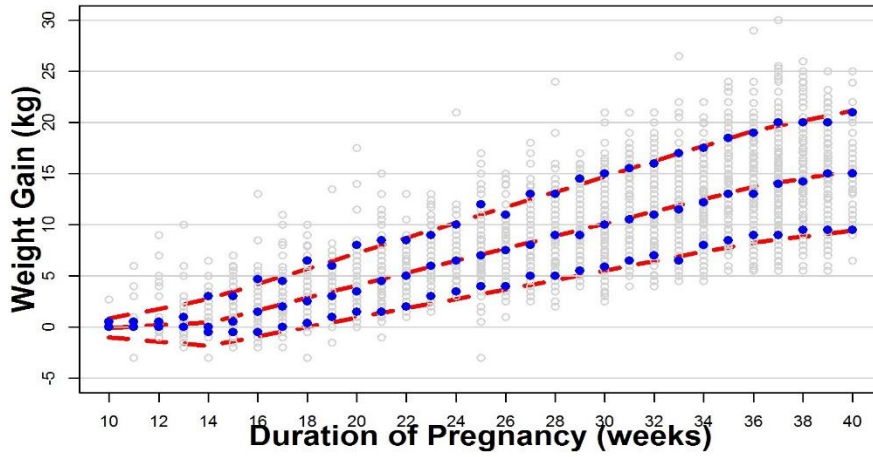


Figure S1a

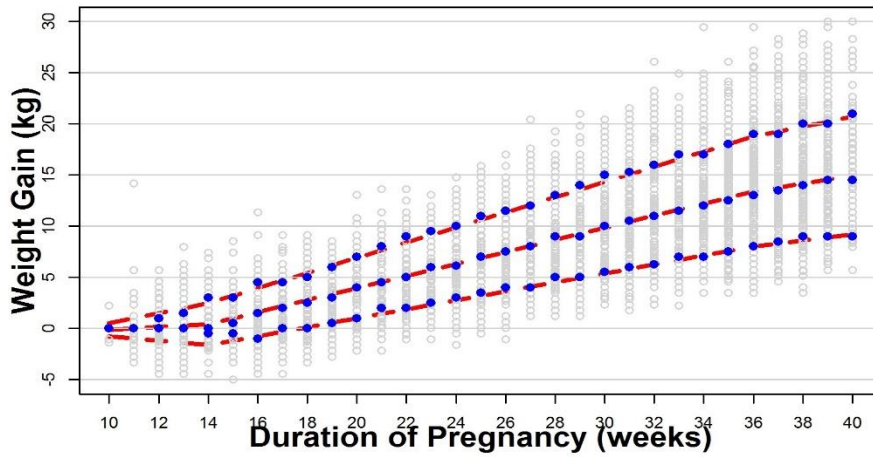


Figure S1b

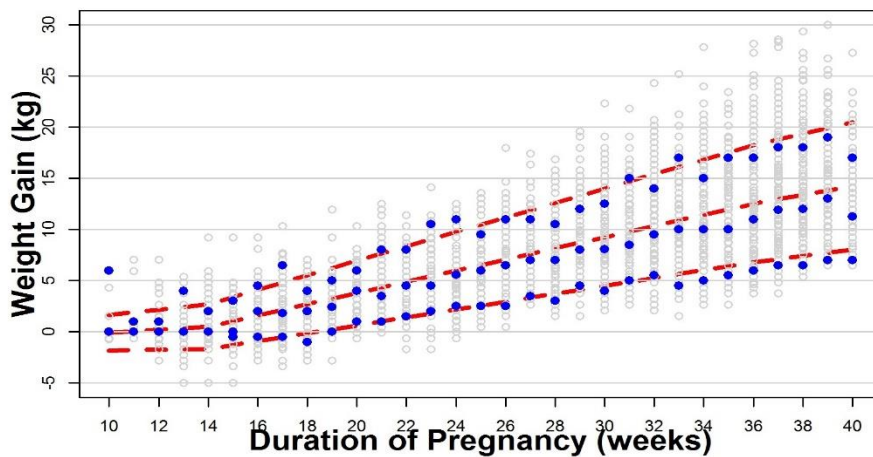


Figure S1c

Figure S1 The 5th (bottom dashed line), 50th (middle), and 95th (top) estimated trajectories for GWG among underweight (a), normal (b), overweight (c) women. Large blue circles show empirical values at each gestational week. Small grey circles represent actual observations