

The Determinants for Adolescent Glycolipid Metabolism Disorder from Prenatal Period through Adolescence: a Cohort Study

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Table S1. General characteristics of childhood between participants with follow-up and withdraw.

Variables	Participants followed up	Withdraw samples	P
Sample size	1879	929	
Region			
Urban	1337(71·15%)	776(83·53%)	<0·01
Rural	542(28·85%)	153(16·47%)	
<i>Anthropometric measures</i>			
Sex, male (n (%))	980(52·16%)	494(53·18%)	0·61
Age, y	7·27±0·62	7·24±0·62	0·25
BMI, kg/m ²	16·7±2·76	16·81±3·31	0·38
Height, cm	124·81±6·15	124·47±6·48	0·20
Weight, kg	26·21±5·8	26·21±6·08	0·99
Waist circumference, cm	56·18±7·31	55·71±7·08	0·12
WHtR	0·45±0·05	0·45±0·05	0·22
SBP, mmHg	100·24±8·74	99·87±8·77	0·30
DBP, mmHg	62·59±7·85	62·18±7·24	0·18
HR	98·93±13·76	99·97±13·75	0·07
<i>Serum biochemical indexes</i>			
FBG, mmol/L	4·12±0·59	4·11±0·58	0·67
TC, mmol/L	3·54±0·72	3·58±1·85	0·51
TG, mmol/L	1·18±9·53	0·98±1·26	0·45
HDL-C, mmol/L	1·27±0·27	1·25±0·27	0·09
LDL-C, mmol/L	1·74±0·57	2·37±11·45	0·14
Gestational hypertension *			
No	1729(97·08%)	658(98·95%)	0·01
Yes	52(2·92%)	7(1·05%)	
Gestational diabetes #			
No	28(98·43%)	653(97·32%)	0·07
Yes	28(1·57%)	18(2·68%)	
<i>Socioeconomic measures</i>			
Income, Yuan/month/person †			
~500	68(4·61%)	25(3·68%)	0·43
~1,000	98(6·64%)	41(6·04%)	
~2,000	248(16·8%)	95(13·99%)	
~3,000	307(20·8%)	155(22·83%)	
~5,000	378(25·61%)	183(26·95%)	
>5,000	377(25·54%)	180(26·51%)	
Father's education, y ‡			
~9	526(28·16%)	317(34·95%)	<0·01
~12	647(34·64%)	429(47·3%)	
≥15	695(37·21%)	161(17·75%)	
Mother's occupation §			
Manager	160(8·59%)	60(6·58%)	<0·01
Worker	643(34·53%)	250(27·41%)	
Technician/Researcher	163(8·75%)	61(6·69%)	
Farmer	509(27·34%)	251(27·52%)	

Other	387(20·78%)	290(31·8%)	
Father's occupation ¶			
Manager	102(5·46%)	44(4·84%)	<0·01
Worker	641(34·31%)	231(25·38%)	
Technician/Researcher	60(3·21%)	25(2·75%)	
Farmer	506(27·09%)	318(34·95%)	
Other	559(29·93%)	292(32·09%)	

BMI, body mass index; WHtR, waist-height-ratio; SBP, systemic blood pressure; DBP, diastolic blood pressure; HR, heart rate; FBG, fasting blood glucose; TC, total cholesterol; TG, triglyceride; HDL-C, high density lipoprotein cholesterol; LDL-C, low density lipoprotein cholesterol.

* with 362 missing data; # with 349 missing data; † with 659 missing data; ‡ with 33 missing data; § with 34 missing data; ¶ with 30 missing data.

Table S2. The risk factors of HbA1c level in adolescents.

Variables	β	SE	P	R ²
Model 1: Variables in 2014				
Sex, male vs. female	-0.004	0.019	0.85	7.06%
Age, y	0.001	0.016	0.99	
Region, Urban vs. Rural	0.011	0.025	0.66	
FBG in 2014, mmol/L	0.074	0.019	<0.001	
BMI in 2014, kg/m ²	0.007	0.003	0.01	
Model 2: Variables in 2019				
Sex, male vs. female	-0.001	0.015	0.941	5.90%
Age, y	-0.006	0.012	0.614	
Region, Urban vs. Rural	-0.060	0.017	0.001	
Insulin in 2019, pmol/L	0.025	0.011	0.029	
WHtR in 2019	0.193	0.118	0.103	
Puberty	0.016	0.017	0.354	
Maternal prepregnancy obesity, ref. normal				
Low weight	-0.011	0.018	0.539	
Overweight/Obesity	0.042	0.023	0.073	
Living convenience	0.002	0.001	0.047	
Model 3: Full model				
Sex, male vs. female	-0.001	0.022	0.978	12.33%
Age, y	0.006	0.019	0.730	
Region, Urban vs. Rural	-0.005	0.031	0.864	
FBG in 2014, mmol/L	0.084	0.020	<0.001	
Insulin in 2019, pmol/L	0.017	0.016	0.289	
BMI in 2019, kg/m ²	0.450	0.176	0.011	
Puberty	-0.009	0.028	0.742	
Maternal prepregnancy obesity				
Low weight vs. normal	0.010	0.027	0.726	
Overweight/Obesity vs. normal	0.054	0.035	0.119	
Living convenience	0.001	0.001	0.527	

FBG, fasting blood glucose; BMI, body mass index; WHtR, waist-to-height ratio.

Table S3. The logistic regression model of IR and glycolipid metabolism disorder.

Variables	OR (95% CI)	P	R ²
<i>Insulin resistance model</i>			
Sex, male vs. female	0.74(0.49,1.1)	0.1378	20.10%
Age, y	1.39(0.98,1.97)	0.0632	
Region, Urban vs. Rural	3.45(1.74,6.86)	0.0004	
Increased BMI during pregnancy, kg/m ²	0.94(0.86,1.02)	0.1094	
Dyslipidemia in 2014	1.21(0.79,1.86)	0.3805	
FBG in 2014, mmol/L	1.47(0.98,2.22)	0.0622	
BMI in 2019	1.25(1.18,1.32)	<.0001	
Father's Education, ref. ≤9y			
9~12	1.50(0.86,2.61)	0.7356	
≥15	1.95(1.12,3.39)	0.0322	
Gestational hypertension	0.47(0.09,2.34)	0.3556	
Physical activity ability	0.99(0.97,1.01)	0.2847	
Psychoticism personality	1.03(1.01,1.05)	0.0050	
<i>Dyslipidaemia model</i>			
Sex, male vs. female	0.93(0.64,1.36)	0.7053	12.07%
Age, y	0.89(0.64,1.24)	0.4882	
Region, Urban vs. Rural	1.20(0.68,2.13)	0.5345	
Maternal weight gain during pregnancy, kg/m ²	0.94(0.87,1.01)	0.0958	
Gestational hypertension	1.21(0.37,3.93)	0.7525	
Birth weight, 50g	1.00(0.98,1.02)	0.7000	
Dyslipidemia in 2014	2.62(1.77,3.86)	<.0001	
FBG in 2014, mmol/L	1.74(1.18,2.59)	0.0057	
BMI in 2019	1.10(1.05,1.16)	0.0001	
Marriage status, Double parents vs. Single parents	1.53(0.83,2.81)	0.1759	
<i>Prediabetes model</i>			
Sex, male vs. female	1.66(0.71,3.88)	0.2400	10.29%
Age, y	0.47(0.23,0.93)	0.0300	
Region, Urban vs. Rural	1.08(0.41,2.87)	0.8800	
Birth weight, 50g	1.03(0.99,1.07)	0.1300	
FBG in 2014, mmol/L	1.37(0.67,2.78)	0.3900	
WHtR in 2019	1.05(1.01,1.11)	0.0400	

IR, Insulin resistance; FBG, fasting blood glucose; BMI, body mass index; WHtR, waist-to-height ratio.