Table S1. Inclusion and exclusion criteria of participate.

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|  | | Inclusion criteria | exclusion criteria |
| GDM | 1. It is the first time to confirm gestational diabetes and meet the diagnostic criteria for gestational diabetes.   Diagnostic criteria：At 24-28 weeks, an OGTT experiment was performed. Fasting blood glucose, one hour, two hour of blood glucose, one of which meets or exceeds 5.1mmol/L, 10mmol/L, 8.5mmol/L. It can be considered as gestational diabetes (any of the three items meets the requirements).   1. Age is greater than 25 years old and less than 40 years old. 2. Natural conception, singleton pregnancy. 3. Full-term production of 37 weeks less than 42 weeks. 4. Can be combined with pregnancy-induced hypertension. | | 1. Pre-pregnancy diabetes, diagnosed as diabetes with one of the following criteria: 1 FPG ≥7.0mmol / L (126mg / dl); 2 GHbA1c ≥ 6.5%; 3 with typical hyperglycemia or hyperglycemia crisis symptoms, and optional blood glucose ≥11.1mmol / L (200mg / dl). 2. Pre-pregnancy with hypertension, cardiovascular disease. 3. Chronic diseases such as liver and kidney diseases 4. Before taking part in this study, he took phentolamine, cortisone, diuretics and other drugs that could interfere with sugar and lipid metabolism. 5. Have diseases that can interfere with sugar and lipid metabolism. For example: hyperthyroidism, hypothyroidism, Cushing's syndrome and other endocrine diseases 6. Multiple pregnancy. |
| NGT | 1. No gestational diabetes was screened by OGTT. 2. Age between 25-40 years old. 3. Natural conception, singleton pregnancy. 4. Full-term production of 37 weeks less than 42 weeks. | | 1. Ibid.  2. Abnormal placenta implantation.  3. Fetal malformation, abnormal amniotic fluid volume, etc. |

GMD, gestational diabetes mellitus; NGT, normal glucose tolerance; OGTT, oral glucose tolerance test; FPG, fasting blood glucose; GHbA1c, glycosylated hemoglobin.