

## **Diabetes in pregnancy and risk of antepartum depression: a systematic review and meta-analysis of cohort studies**

### **ABSTRACT**

Previous literature has reported that patients with diabetes in pregnancy (DIP) are at risk of developing antepartum depression but the results have been inconsistent in cohort studies. We conducted a systematic review and performed a meta-analysis to quantify the association between DIP and risk of antepartum depression in cohort studies. Medline, Cinahl, and PubMed databases were searched for studies investigating DIP involving pregnant women with pre-existing diabetes and gestational diabetes mellitus and their risk of antepartum depression that were published in journals from inception to 27 December 2019. We derived the summary estimates using a random-effects model and reported the findings as pooled relative risks (RR) and confidence interval (CI). Publication bias was assessed using a funnel plot and was quantified by Egger and Begg's tests. Ten studies, involving 71,036 pregnant women were included in this meta-analysis. The pooled RR to develop antepartum depression was (RR = 1.430, 95% CI: 1.251–1.636) among women with gestational diabetes mellitus. Combining pregnant women with pre-existing diabetes mellitus and gestational diabetes mellitus, they had a significant increased risk of developing antepartum depression (RR = 1.431, 95% CI: 1.205–1.699) compared with those without it. In comparison, we found no association between pre-existing diabetes mellitus in pregnancy (RR = 1.300, 95% CI: 0.736–2.297) and the risk of developing antepartum depression. This study has a few limitations: first, different questionnaire and cut-off points were used in evaluation of depression across the studies. Second, there was a lack of data on history of depression prior to pregnancy, which lead to confounding bias that could not be solved by this meta-analysis. Third, data were dominated by studies in Western countries; this is due to the studies from Eastern countries failing to meet our inclusion criteria for statistical analysis. Women with gestational diabetes mellitus have an increased risk of developing antepartum depression compared to those without the disease. Therefore, more attention on the mental health status should be given on pregnant women diagnosed with pre-existing diabetes mellitus and gestational diabetes mellitus.

**Keyword:** Antepartum depression; Gestational diabetes; Pre-existing diabetes; Diabetes in pregnancy