

The Relationship of Depression Risk and Gestational Diabetes Mellitus: A Systematic Review and Meta-Analysis

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Abstract : Introduction: Gestational diabetes mellitus (GDM) refers to impaired glucose tolerance in pregnant women, impacting both the mother and newborn with short and long-term effects. It increases risks of preeclampsia, hypertension, type 2 diabetes, cesarean section, and preterm birth. GDM is associated with fetal macrosomia, shoulder dystocia, neonatal hypoglycemia, and future type 2 diabetes risk. A study on 6,421 pregnant women found 12% experienced high stress, linked to maladaptive coping and depressive emotions. Women with high-risk pregnancies may experience greater stress and depression. Research suggests GDM increases depression prevalence. A study on 632 Hispanic women with GDM showed severe stress and depression tendencies. Involving 95 women with GDM, 33.4% exhibited depression symptoms. Another study compared 180 GDM women to 186 with normal glucose levels, revealing higher depression levels in GDM women. They found GDM women were 1.85 times more likely to receive antidepressants during pregnancy and 1.69 times more likely to experience postpartum depression. Maternal stress and depressive symptoms during pregnancy are significant factors. Early identification by healthcare professionals can greatly benefit GDM women, their infants, and their families. Objectives: The purpose of this study was to investigate the association between gestational diabetes mellitus (GDM) and the risk of depression. Methods: This study reviewed and analyzed relevant literature on gestational diabetes mellitus (GDM) and depression in 6,876 patients. The literature search followed PRISMA guidelines and included databases like Embase, PubMed, MEDLINE, CINAHL, and Cochrane Library. Prospective or retrospective studies with relevant risk ratios and estimates were included, using a random-effects model for the analysis of depression risk correlation. Studies without depression data or relevant risks were excluded. The search period extended until October 2022. Results: Systematic review of 7 studies (6,876 participants) found a significant association (OR = 8.77, CI: 7.98-9.64, $p < 0.05$) between gestational diabetes mellitus (GDM) and higher depression risk compared to healthy pregnant women. Conclusions: Pregnancy is a significant life transition involving physiological, psychological, and social changes. Gestational diabetes poses challenges to women's physical and mental well-being. Sensitive healthcare professionals identifying issues early can greatly benefit women, babies, and the family.

Keywords : gestational diabetes, depression, systematic review, meta-analysis

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