



Dr Veena Aggarwal
Consultant, Womens' Health
CMD and Group Editor-in-Chief,
IJCP Group & Medtalks
Trustee, Dr KK's Heart Care
Foundation of India

Gestational Diabetes Pattern and Risk of Incident Diabetes

Women who experience gestational diabetes mellitus (GDM) in the first pregnancy are at a 4.35-fold increased risk of developing new-onset type 2 diabetes compared to women who did not have GDM. This risk increased 7.68-folds if GDM occurred in the second pregnancy only or 15.8-folds in women with a history of GDM in both pregnancies. These findings from a study of nearly half a million women were published May 1, 2024 in *JAMA Network Open*¹.

This retrospective cohort study aimed to compare the odds of incident diabetes among women with GDM in the first pregnancy, second pregnancy, and in both pregnancies in comparison to women without GDM in either pregnancy. The Quebec health administrative and birth, stillbirth, and death registries were used to procure data of women who had two singleton deliveries between April 1990 and December 2012. Data were examined in 2023 between July and December.

The study included 431,980 women who had two singleton deliveries; the mean age at the second delivery was 30.1 years, and the mean time elapsed between deliveries was 2.8 years. None of the participants had a history of diabetes. Of these women, 86.4% (n = 373,415) were European by heritage, and 18.2% (n = 78,770) belonged to the highest quintile of material deprivation. Over a median follow-up duration of 11.5 years, the incidence of GDM was 2.5% in the first pregnancy, 3.7% in the second pregnancy, and 1.9% in both pregnancies.

Women with GDM only in their first pregnancy had nearly 5-folds increased likelihood of developing diabetes with hazard ratio (HR) of 4.35. The risk of future

diabetes increased by more than 7.5 times in women with GDM in their second pregnancy only with HR of 7.68. Among those who had GDM in both pregnancies, the risk of diabetes increased almost 16 times with HR of 15.8. Gestational diabetes in the second pregnancy increased the hazard of incident diabetes by 76% compared to GDM in the first pregnancy. The risk was increased 3.63-folds in case of GDM in both pregnancies versus first pregnancy-only GDM.

This study provides evidence of how GDM occurrence in the first, second, or both pregnancies impacts diabetes risk compared to women with no GDM in either pregnancy. It reveals that GDM only in the second pregnancy poses a higher risk of incident diabetes than GDM in the first pregnancy alone. Having GDM in both pregnancies greatly increases the risk of developing diabetes compared to having GDM in only one pregnancy.

The findings underscore the importance of close monitoring and managing GDM, especially in subsequent pregnancies, to mitigate the long-term risks of developing diabetes. Not just the number of times of occurrence of GDM, the specific pregnancy affected must also be considered for comprehensive risk assessment and formulating tailored management strategies for better clinical outcomes.

REFERENCE

1. Mussa J, Rahme E, Dahhou M, Nakhla M, Dasgupta K. Incident diabetes in women with patterns of gestational diabetes occurrences across 2 pregnancies. *JAMA Netw Open*. 2024;7(5):e2410279.