Glycemic status of Asian Indian women during 3-5 years postpartum: Prospective follow-up of STRiDE cohort

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Background: South Asians have an increased predilection to gestational diabetes mellitus (GDM) and type 2 diabetes (T2D). This study reports on the postpartum glycaemic status in a well-established GDM cohort of Asian Indian women. Methods: The STratification of Risk of Diabetes in Early pregnancy (STRiDE) cohort included Asian Indian (n=2703) women who were screened for GDM using IADPSG criteria from early pregnancy (2016-2019). The STRiDE-Follow up study is an ongoing longitudinal study of STRiDE cohort, comprising of women diagnosed with and without GDM during index pregnancy. To date, 500 women (GDM-151, non-GDM-349), have been screened for glycaemic status and cardiovascular risk factors. The diagnosis of dysglycaemia (prediabetes and T2D) was by 2020 American Diabetes Association (ADA) criteria. Logistic regression model was used to estimate risk of prediabetes, T2D and combined dysglycaemia. Unadjusted and adjusted odds ratio (OR) (covariates: booking age, BMI, and waist circumference, family history of diabetes, socio-economic status (SES), and duration of follow-up) and 95% confidence interval (95%CI) were reported. Results: The mean duration of follow-up was 4.3 years post-delivery. The overall prevalence of prediabetes and T2D were 13.8% and 3.0% respectively. The prevalence of prediabetes and T2D among women with history of GDM were 27.8% and 8.6% respectively. The prevalence of dysglycaemia was significantly higher in the GDM compared to non-GDM women (36.4% vs. 8.3%, p<0.001). GDM women had higher odds of developing T2D (OR: 21.67; 95%CI: 4.8-97.7; p<0.001), prediabetes (OR: 5.19; 95%CI: 3.04-8.85; p<0.001) and for combined dysglycaemia (OR: 6.33; 95%CI: 3.8-10.47; p<0.001), compared to women without GDM. The corresponding adjusted OR (aOR) were also significantly high for GDM women. They were T2D: aOR:68.56; 95%CI:7.1-661.2; p<=<0.001; prediabetes: aOR:4.94; 95%CI:2.8-8.7; p<=0.001; and combined dysglycaemia: aOR:6.02; 95%CI:3.5-10.3; p<=0.001. Among other risk factors, low SES was independently associated with higher odds of dysglycaemia (OR:3.22; 95%CI: 1.59- 6.50, p=0.001), despite having significantly lower BMI. Conclusion: History of GDM is independently associated with the progression to postpartum dysglycaemia. In addition, women from low SES are particularly at higher risk. Our findings highlight the importance of population-specific policies in prioritising women with history of GDM for prevention of T2D in India.