**Background:** Blood glucose levels during pregnancy may refect the severity of insulin secretory defects and/or insulin resistance during gestational diabetes mellitus (GDM) pregnancy. We hypothesized that suboptimal glycemic control in women with GDM could increase the risk of postpartum type 2 diabetes mellitus (T2DM) or prediabetes. Our objective was to evaluate the impact of plasma glucose levels throughout GDM pregnancy on the risk of postpartum T2DM or prediabetes.
**Research Ethics:** Deals with the methods and instruments used in this study. It includes administrative arrangements, setting of the study, sample of the study, validity and reliability of the questionnaire.
**Study design:** Non-probability samples were taken from a questionnaire prepared for this purpose. The study design was used to determine the blood sugar level of pregnant women in Babil Governorate.
**Administrative arrangements:** To conduct the study, official administrative permissions were obtained before collecting the samples as follows: An official letter was obtained from the University of Babylon / College of Nursing, and [60 samples for measuring blood glucose in pregnant women were collected by filling out the questionnaire. Taken after it started from 1/11/2021 to 1/1/2022. Sampling began at Imam al-Sadiq (peace be upon him) Teaching Hospital and Maternity Hospital in Babylon.
**Conclusion:** Our fndings suggest that blood glucose levels during GDM pregnancy have an impact on the risk of postpartum T2DM and prediabetes.
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**Keywords:** Gestational diabetes mellitus, Glucose level, Glycemic control, Postpartum prediabetes, Postpartum type 2 diabetes mellitus
**The following are the largest percentages for sampling**:
**1-** The largest proportion of samples were taken from Babel Hospital for Maternity and Children, which constitutes 60% of the total samples.
**2-** The age group 26-30 years was the largest age group from which samples were taken, which constitutes 30% of the total samples.
**3-** Housewives were the most sampled group as compared with female employees and students, as they constituted 56.67% of the total samples.
**4-** The largest proportion of the samples was taken from the outskirts of the city, which constitutes 51.67% of the total samples.
**5-** Women with non-hereditary diabetes had the largest percentage and constituted 75% of the total samples.
**6-** According to the sequence of pregnancy in the patients , Women in the first three months of pregnancy were the largest, which constitutes 75% of the total samples.

**7-** Women who gave birth in the ninth month were the largest proportion of the total samples, constituting 68.34% .

**8-** Non diabetic women before pregnancy had the largest percentage and constituted 58.33% of the total samples.