

Climate change, Seasonality and Gestational Diabetes Mellitus



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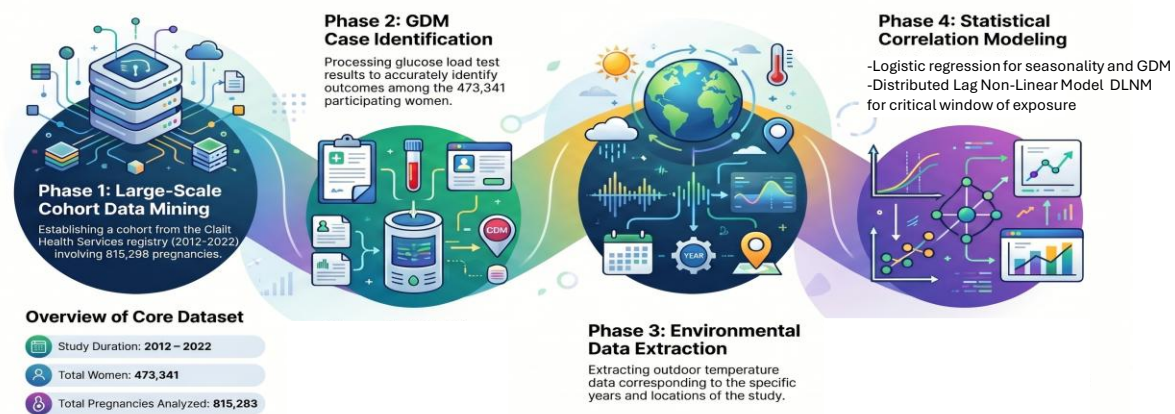
INTRODUCTION

Gestational diabetes mellitus (GDM) is that is increasingly prevalent on a global scale. Climate change poses a significant threat to public health, particularly affecting vulnerable groups such as pregnant women. During pregnancy, a woman's body undergoes anatomical and physiological changes that increase its sensitivity to environmental factors. Numerous studies across different regions have demonstrated a correlation between exposure to elevated outdoor temperatures or the summer season and increased blood glucose levels during pregnancy, as well as a heightened risk of developing GDM.

METHODS

A registry-based retrospective cohort study was established for women who performed glucose challenge tests (GCT) and oral glucose tolerance tests (OGTT) at Clalit during 2012-2022. GDM cases were identified following GCT or OGTT results. Temperature data was established using the women home/clinic address at the date of the test. Association between season of test and GDM was evaluated using multivariable logistic regression.

Technical Research Workflow: Analyzing Gestational Diabetes and Environmental Trends



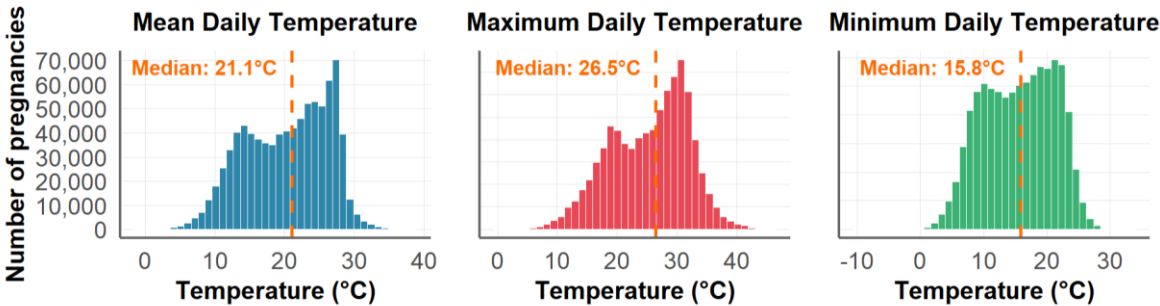
RESULTS

Multivariable logistic regression analysis of seasonal variation in GDM risk*

	Jewish population n= 568,541 5.0% GDM	Arab-Muslim population n= 154,026 4.6% GDM
Season of glucose test	Odds ratio (95% confidence interval)	
Winter	Reference	Reference
Spring	1.24 (1.20-1.29)	1.24 (1.15-1.33)
Summer	1.42 (1.38-1.47)	1.39 (1.30-1.48)
Autumn	1.25 (1.21-1.30)	1.22 (1.13-1.31)

*Adjusted for maternal age, body mass index, year of the test and the Ramadan period.

Distribution of temperatures at the day before the glucose test



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