

## **Oral glucose tolerance test: the utility of isolated glucose measurements**

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### **Objective**

The WHO 2013 guidelines recommend screening for gestational diabetes mellitus (GDM) by 3-point oral glucose tolerance test (OGTT). The objective of this retrospective cohort study was to evaluate the incidence of women diagnosed with GDM by an isolated high glucose concentration and evaluate the cost-effectiveness of this specific measurement.

### **Methods**

We examined the records of 1939 consecutive screened pregnancies at two teaching hospitals in Amsterdam during 2016-2020. Pregnant women deemed at risk for GDM were offered GDM screening were eligible. Using the WHO 2013 diagnostic criteria, we calculated the proportion of GDM cases diagnosed by isolated abnormal glucose values.

### **Results**

GDM incidence was 31.5%. Of the GDM diagnoses, 57.0% was made by an isolated fasting glucose value, 30.9% based on multiple raised glucose measurements, 7.4% by an isolated raised 2-hour glucose and lastly the proportion of GDM diagnoses based solely on an isolated raised 1-hour glucose was 4.7%. For 1 hour glucose, the number needed to screen was 67 persons for one additional GDM case.

### **Conclusion**

The 1 hour glucose in the 3 point OGTT, as suggested by the WHO 2013 guidelines for GDM, contributes only small numbers of GDM cases and a high number needed to screen (67 for 1 additional case in a selective high risk GDM screening strategy), and is likely even less (cost) effective in universally screened populations.