

# Glucose Challenge Test as a Screening for Gestational Diabetes Mellitus and the Influence of some of the Associated Risk Factors

## Abstract

### Background

Gestational diabetes mellitus has been identified as a medical disorder in pregnancy and if not diagnosed early and treated adequately it leads to significant maternal and foetal morbidity and mortality. A common approach to detecting gestational diabetes mellitus is to screen all pregnant women by measuring their plasma glucose levels after a 50g oral glucose load at 24 to 28 weeks of gestation. Women are subjected to an oral glucose tolerance test if the plasma glucose concentration at one hour later is 140mg/dl (7.8mmol/l) or more. We hypothesized that glucose challenge test is a good screening test and its predictive value is enhanced by the presence of known risk factors of gestational diabetes mellitus.

### Method

We studied 517 pregnant women attended to antenatal clinic who underwent the screening with glucose challenge test. Women who exceeded the threshold for gestational diabetes were subjected to oral glucose tolerance test. Oral glucose tolerance test was also done in patients whose glucose challenge test was normal but later showed clinical features of gestational diabetes or had known risk factors of gestational diabetes mellitus.

### Results

The sensitivity and positive predictive values in the index population were 75% and 25% respectively. In the group having a family history of diabetes the figures were 81% and 33% respectively. Among the women older than 30 years the figures were 82% and 30%. In the group having both risk factors the sensitivity and positive predictive values were 92% and 42% respectively. Thus the sensitivity and positive predictive values of