

# Incidence of Gestational Diabetes Mellitus – comparison of old versus new guidelines.

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## Introduction

In February 2015, the guidelines regarding the diagnostic criteria for gestational diabetes mellitus were amended, lowering the threshold for diagnosis based on the fasting blood glucose value of oral glucose tolerance test (OGTT). This change was made in part, based on the large double blind study based on the results of the Hyperglycaemia and Adverse Pregnancy Outcome (HAPO) study, which found an association between adverse outcomes even below diagnostic criteria used to identify patients with gestational diabetes mellitus

## Aim

To identify how new diagnostic guidelines will have an impact on the incidence of gestational diabetes in the joint diabetes and obstetric department in University Hospital Llandough.

## Method

605 files accessed over the 13 months from 01.03.14 to 31.03.15 using midwife led clinic lists. The gestation at the time of the oral glucose tolerance test was calculated based on the gestational dating scan conducted at approximately 12 weeks gestation. Patients were identified using midwife led clinic lists. The patient unique hospital identification number was used to access electronic database hospital records, to assess whether an oral glucose test was conducted at that particular midwife clinic. The results were compiled using Microsoft excel, and analysed to assess whether the results of the OGTT were positive or negative for diagnosis of gestational diabetes mellitus, using firstly the “old” and then the “new” diagnostic criteria

## Results

Chart 1: Number of OGTTs performed by gestational age

■ < 24 wks ■ 24-28 wks ■ > 28 wks

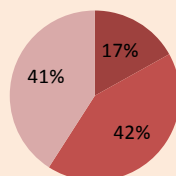


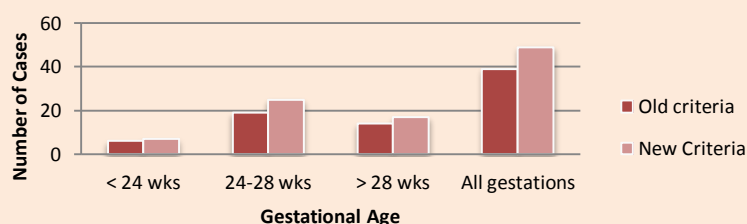
Table 1: Number of OGTTs performed by gestational age

Gestational Age (weeks)	Number of OGTTs
Total	479
< 24	81
24-28	202
> 28	196

Table 2: Cases of GDM by gestational age using old v new criteria

Gestational Age	Old Criteria	New Criteria	Relative Increase
< 24 weeks	6 cases	7 cases	16.67%
24-28 weeks	19 cases	25 cases	31.58%
> 28 weeks	14 cases	17 cases	21.43%
All cases	39 cases	49 cases	23%

Chart 2: Number of cases of gestational diabetes mellitus by gestational age



## Discussion

- Our study shows that a large majority of oral glucose tolerance tests are done outside the recommended gestation (58%) with a large majority after 28 weeks gestation.
- Whilst there is an increase in the incidence of gestational diabetes mellitus, actual numbers are quite small. However, the diagnosis of gestational diabetes has major implications of further management for these patients.
- Newly diagnosed gestational diabetics need increased frequency of follow-up (fortnightly) from diabetic specialists and obstetricians, with at least 4 weekly obstetric scans to monitor progress.
- The range of gestational age for the patient's diagnosed varied from 15 weeks gestation to 36 weeks gestation. We estimate that this would have resulted in an **additional 50 clinic appointments and 25 obstetric scans over the 13 month period**. This will have an impact on departmental resources, availability of clinic slots and clinical case load.
- If all GDM cases had been diagnosed at 26 weeks gestation, this would have resulted in 60 extra clinic appointments and 30 additional obstetric scans.

## References

1. NEJM The HAPO Study Cooperation Research Group. Hyperglycaemia and Adverse Pregnancy Outcomes. May 8, 2008 Vol 358 No 19
2. Cundy T, Ackermann E, Ryan E. Gestational Diabetes: new criteria may triple the prevalence but effect on outcomes is unclear. BMJ 2014; 348:g1567 11 March 2014