



Intrapartum blood glucose monitoring – are we meeting the national standard?

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Introduction

- In February 2015, NICE developed guidelines for the management of diabetes in pregnancy.
- The guidelines include new diagnosis gestational diabetes mellitus (GDM) (irrespective of treatment modality) and pre-existing diabetes (either insulin-dependent (IDDM) or non-insulin dependent (NIDDM))
- All diabetic patients in labour require **hourly** blood sugar monitoring.¹
- Regular monitoring aims to prevent neonatal hypoglycaemia and maternal ill effects.²

Method

- We strongly suspected we were not achieving the NICE guidance and audited the intrapartum care of all women with diabetes who delivered in Ninewells Hospital between May and July 2022.
- The electronic intrapartum records of all women with GDM and pre-existing diabetes, irrespective of treatment modality (e.g. diet, tablet, insulin) were reviewed.

Results (first cycle)

- 66 women with a diagnosis of diabetes were delivered in Ninewells Hospital between May and July 2022.
- 10 of the 66 (15%) women had **hourly** blood sugars monitored and recorded on our electronic record system during their labour and delivery.
- 37 women went on to have an anaesthetic during their labour/post birth period and only 7 of these women had a documented blood sugar in theatre. 18 of these were elective sections and only 1 met the **hourly** blood sugar target.

Initial recommendations

- We held 'Diabetes Awareness Week' on labour suite in Dec 2022.

Teaching sessions

We delivered small group tutorials and tea trolley teaching sessions.

Audit results

Were presented to obstetric, anaesthetic and midwifery colleagues to raise awareness.

Patient education

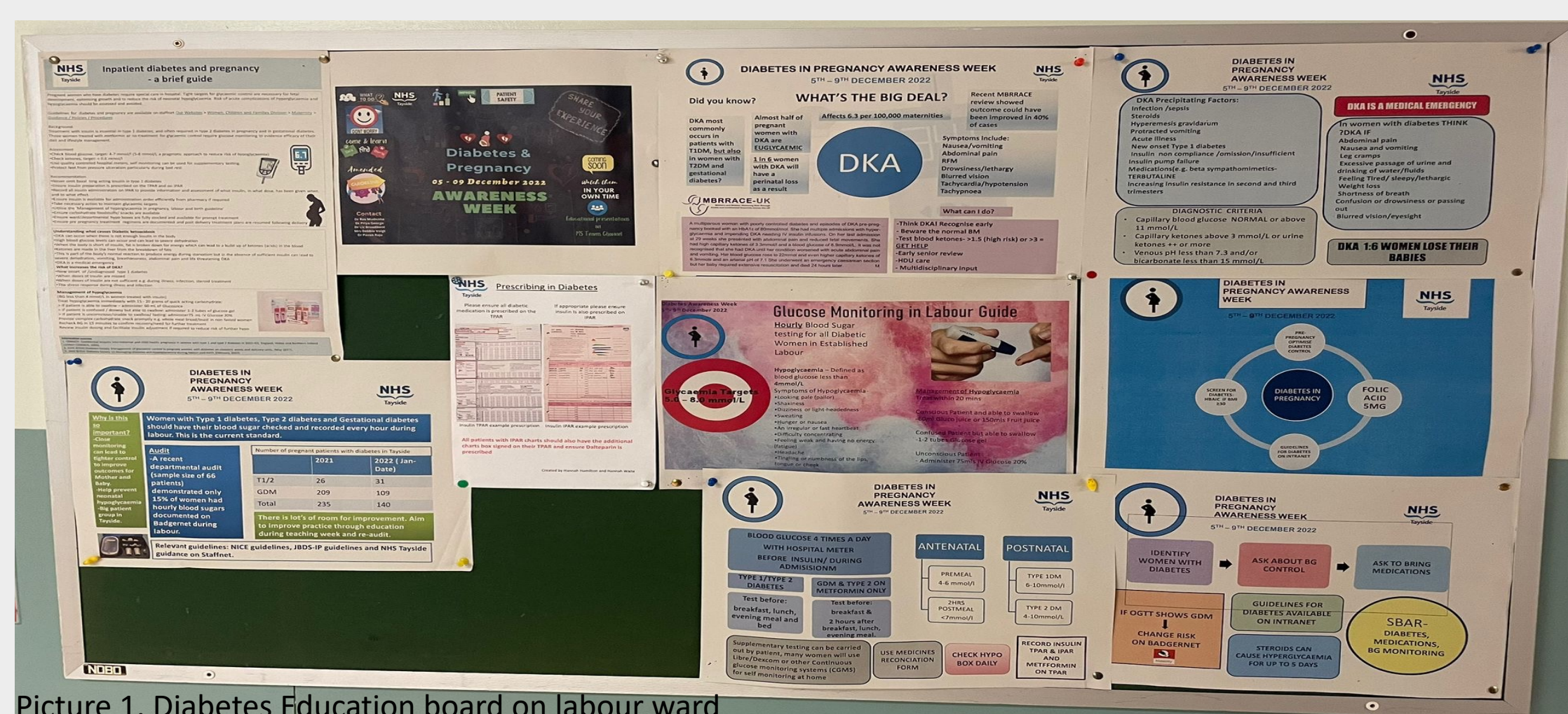
We delivered patient education sessions raising awareness of diabetes in pregnancy.

Resources

We created a diabetes information board and a diabetes education channel on Microsoft teams.

	First audit cycle (May-July 22)	Second audit cycle (Jan-March 23)
GDM	57 (86%)	101 (93%)
IDDM	7 (10%)	6 (5.5%)
NIDDM	1 (1.5%)	2 (1.5%)
Other	1 (1.5%)	0
Total	66	109

Table 1. Women with diabetes by type.



Picture 1. Diabetes Education board on labour ward

Results (second cycle)

- After implementation of our initial recommendations, we reaudited the intrapartum care of all women with diabetes who delivered in Ninewells Hospital between January and March 2023.
- 109 women with a diagnosis of diabetes delivered in Ninewells Hospital.
- 48 of the 109 (44%) of these had **hourly** blood sugars documented.
- 73 of these women went on to have an anaesthetic and 29 of them had a blood sugar documented in theatre. 50 of these had elective C-sections and only 11 of these women met the **hourly** blood sugar target.

Discussion and further recommendations

- Our second audit cycle demonstrates an improvement in practice.
- However, more must be done to ensure we are providing the gold standard of intrapartum care for women with diabetes.
- Our data also highlighted that mothers having elective caesarean sections are less likely to get **hourly** blood sugar checks whilst in hospital as they are not in active labour.
- We plan to continue to deliver regular staff education sessions, update the 'Diabetes in Pregnancy' board on labour ward and present the re-audit data to both the obstetric and anaesthetic departments in our trust.

References

- ¹ NICE. Diabetes in Pregnancy: management from preconception to postnatal period. National Institution for Clinical Excellence. February 2015. Pages 25-26
- ² Kalra P, Ankal M. Peripartum management of diabetes. Indian J Endocrinol Metab. 2013 Oct;17(Suppl 1):S72-6. doi: 10.4103/2230-8210.119510. PMID: 24251226; PMCID: PMC3830373.