SHOP WITH US

We've got a whole host of items for you to buy on our online shop.

And with every purchase, you're helping us drive life-changing research and be there for people with diabetes.

Diabetes UK Hoodie

Go to **diabetes.org.uk/bal-shopping**

Or call **0800 585 088***

*Phone lines open Monday to Saturday 8am to 8pm and Sunday 9am to 6pm.

Run by Diabetes UK Services Ltd (company no: 891004) for The British Diabetic Association (Diabetes UK), reg. charity in England & Wales (215199) and Scotland (SC039136)

DIABETES UK
KNOW DIABETES. FIGHT DIABETES.

SUPPORTING WOMEN WITH DIABETES BEFORE AND DURING PREGNANCY

Professor Helen Murphy

Natasha Marsland

Professor Helen Murphy, Professor of Diabetes and Antenatal Care and Chair of the National Pregnancy in Diabetes audit, talks with Natasha Marsland, Senior Clinical Advisor at Diabetes UK, about pregnancy outcomes for women with diabetes

Introduction

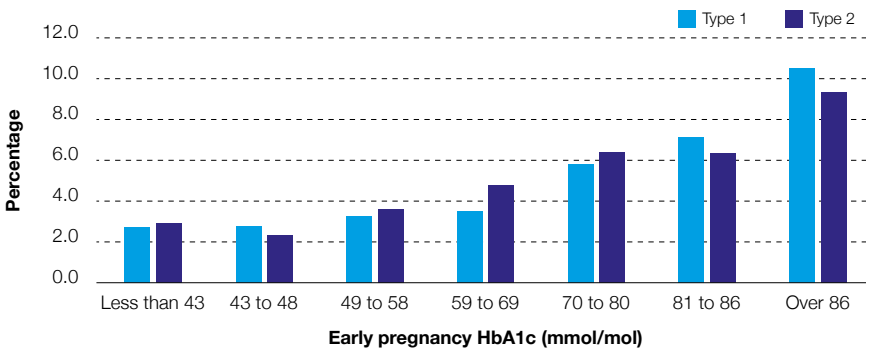
The National Pregnancy in Diabetes (NPID)[1] audit is the largest continuous dataset of pregnancy outcomes in women with diabetes worldwide, with more than 4,500 pregnancies recorded in 2020. The data show a doubling in the proportion of pregnancies of women with type 2 diabetes. Women with type 2 diabetes now make up 54% of pregnancies, compared to 27% in the 2002–2003 CEMACH report[2], with seven times more type 2 diabetes pregnancies among women living in the poorest communities. There's a real lack of awareness among women and healthcare professionals that developing type 2 diabetes between 18-39 years old is associated with a more severe metabolic phenotype. Early-onset type 2 diabetes is more often accompanied by other medical co-morbidities, including hypertension and dyslipidemia and rapid accumulation of diabetes-related complications.

The NPID audit now includes seven years of data, allowing more detailed analyses than before and providing some new insights, which we will cover in this fact file.

Early pregnancy glucose targets

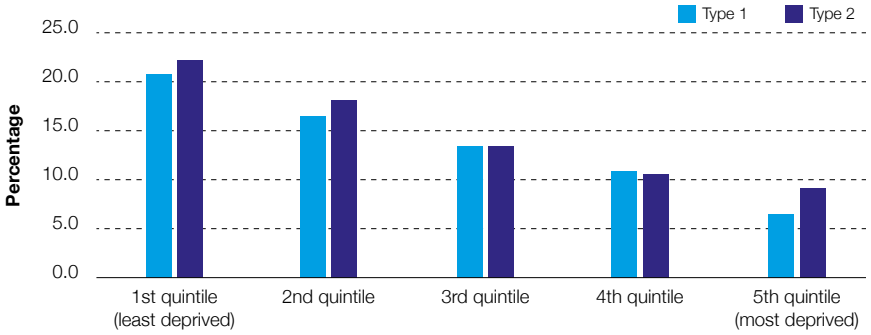
The NPID data confirm that congenital anomalies are lowest in women who achieve an early pregnancy HbA1c of less than or equal to 48mmol/mol (Figure 1).

Figure 1: Congenital anomaly and early pregnancy HbA1c



Optimal pregnancy preparation is defined as starting 5mg of folic acid before pregnancy and achieving a HbA1c target of less than or equal to 48mmol/mol in early pregnancy. There are stark healthcare inequalities in pregnancy preparation, with the lowest rates of preparation among women living in the most deprived communities. Our approaches to offering 'pre-conception counselling to women of childbearing ages' are not fit for purpose, with only 6% of women with type 2 diabetes and 9% of women with type 1 diabetes well prepared for pregnancy (Figure 2).

Figure 2: Healthcare inequalities in pregnancy preparation



Fact File 49

What is your message concerning pregnancy preparation?

Healthcare professionals need to ensure that all women aged 15–50 years with diabetes have safe, effective contraception until they are ready for pregnancy.

It's so important that healthcare professionals are more actively engaged with the importance of contraception planning to prevent pregnancy until safe glucose targets are reached. As in other aspects of diabetes care, language really matters. Conversations about contraception planning and signposting to integrated contraception and sexual health services (iCASH) are relevant to almost all women with diabetes, whereas planning for pregnancy is something women might do only two or three times.

Specialist services provide the most up-to-date information offering women a range of contraceptive injections, implant and coil fittings, as well as emergency contraception options. We need to make sure our patient literature reflects this and refers women to resources such as available at iCASH at icash.nhs.uk and the Tommy's pregnancy planning app at www.tommys.org.

Asking ourselves, are we treating glucose levels to target or as close as safely achievable, targeting an HbA1c of 48 mmol/mol? Are they taking the prescribed amount of 5mg of folic acid, as recommended for at least three months before getting pregnant?

Glucose targets during pregnancy

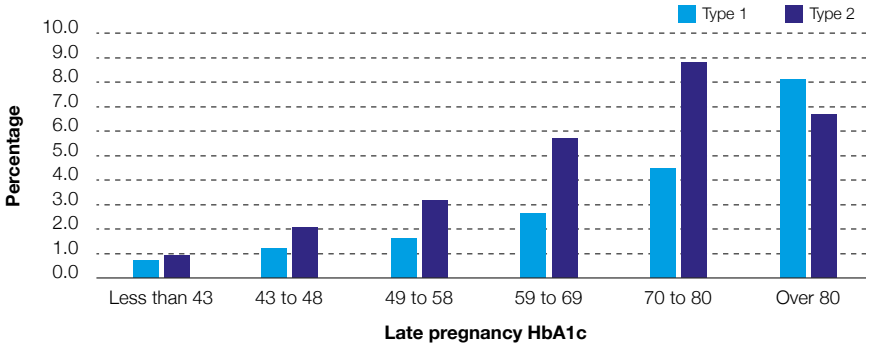
There is limited awareness both among women themselves and among healthcare professionals about the importance of targeting safe glucose levels before and during pregnancy in women with type 2 diabetes. Glucose targets have not had the same attention in type 2 compared to type 1 diabetes.

In addition to the genetic and pathophysiological differences between type 1 and type 2 diabetes, early-onset type 2 diabetes is inextricably linked with socioeconomic deprivation and ethnicity. Women with early-onset type 2 diabetes are more likely to come from a deprived area and be of minority ethnicity, or both. While overweight and obese body mass index (BMI), or both is modifiable to some extent before, this is often difficult because of the social context in which people live. We are struggling with an increasing problem of obesity in the maternity population. Glucose is by far the most important modifiable risk factor for maternal/fetal outcomes.

What are the messages from the NPID data concerning minimising adverse pregnancy outcomes?

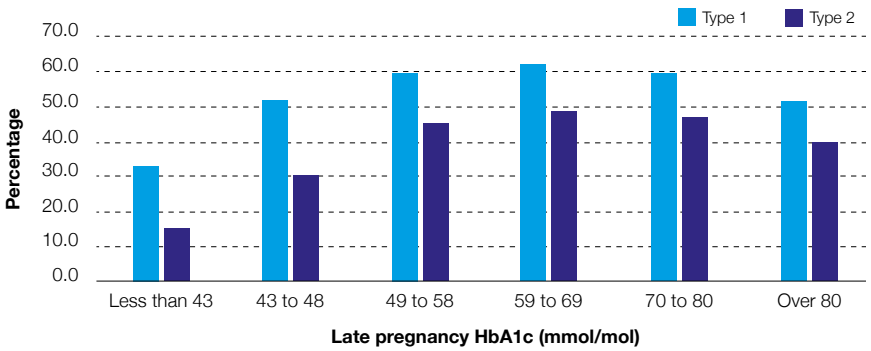
The recent NPID data show that baby deaths – stillbirth or death of a baby during the first 28 days, preterm births, large for gestational age (LGA) birthweight and neonatal care unit admissions are all lowest in women with HbA1c less than 43 mmol/mol after 24 weeks gestation. The data suggests that women with type 2 diabetes may be even more vulnerable to small changes in glucose during pregnancy compared to women with type 1 diabetes (Figure 3).

Figure 3: Baby deaths and late pregnancy HbA1c



These latest NPID data suggest that after 24 weeks, we should measure HbA1c and aim for more ambitious HbA1c targets than are currently recommended by NICE[3]. Rates of baby deaths are lowest in women with HbA1c <43/mmol/mol. This means that women with higher HbA1c levels after 24 weeks should receive additional diabetes and obstetric input. Tighter glucose targets are also needed to reduce the rates of preterm birth, large for gestational age birth weight and neonatal care admissions both in type 1 and type 2 diabetes. In type 1 diabetes, large birthweight rates were still as high as 50% with the current HbA1c target of <48mmol/mol but were closed to 30% in those with HbA1c <43mmol/mol. Women with type 2 diabetes and an HbA1c <43mmol/mol had rates of large birthweight approximating those of the background maternity population (Figure 4).

Figure 4: Large birthweight and late pregnancy HbA1c



Is there data suggesting the benefits of continuous glucose monitoring (CGM) in pregnant women with type 1 and type 2 diabetes?

Yes, the CGM in pregnant women with type 1 diabetes (CONCEPTT)[4] trial has shown the importance of using CGM throughout pregnancy, including during labour and birth. The new Joint British Diabetes Societies (JBDS)[5] intrapartum guidelines, which are signposted to the Diabetes UK website, support pregnant women with diabetes to continue using CGM and other diabetes technologies, including insulin pumps and hybrid closed-loop systems when they are admitted to hospital.

It's encouraging that in England, 98% of all women with type 1 diabetes have been offered, and over 80% have used real-time CGM during pregnancy. We are now examining these data to understand the real-world impact of CGM on maternal glucose and pregnancy outcomes across the NHS.

There is an urgent unmet need for more research regarding the use of CGM in pregnant women with type 2 diabetes and to better understand what support they and their healthcare team might need to make the best use of CGM data.

You have often spoken about the concerning lack of recall for women with gestational diabetes. Is there anything else you would like to add?

Yes. I really want to highlight the importance of recalling women for their post-natal glucose review and annual HbA1c check. Attaching the gestational diabetes SNOMED code 11687002 to all correspondence, can help primary care practices to automate patient records and ensure information is trackable. We also know that the likelihood of developing type 2 diabetes is as high as 50% in the five years after a GDM pregnancy[6].

This is a good opportunity to remind healthcare professionals that the Healthier You NHS Diabetes Prevention Programme (NHSDPP) eligibility criteria now include all women with previous GDM. More broadly, we need a national audit of GDM to understand its impact on pregnancy outcomes and to work out how best to prevent type 2 diabetes after a GDM pregnancy. We will likely need to be much more aggressive in our management of obesity and glycaemia before, during and after pregnancy.

The Ockenden report findings

We know from the Ockenden report[7] that while maternity services are universally stretched, multidisciplinary team input is essential for women with diabetes before, during and after pregnancy. Diabetes and obstetric team need to understand that many baby deaths are potentially preventable by supporting pregnant women to achieve tighter glucose targets and identifying those with higher HbA1c for more intensive support and surveillance. We also need to engage with primary care to ensure that all women with diabetes aged 15-50 years are advised to continue using contraception until safe glucose targets are reached and to support the management and prevention of early-onset type 2 diabetes.

Further reading

Read more about the glycaemic management of pregnant women with diabetes at: diabetes.org.uk/up-glycaemic-control

References

1 NHS Digital. (n.d.). National Pregnancy in Diabetes Audit Report 2020. [online] Available at: https://digital.nhs.uk/data-and-information/publications/statistical/national-pregnancy-in-diabetes-audit/2019-and-2020.

2 www.publichealth.hscni.net. (n.d.). Saving Mothers' Lives 2003-2005 | HSC Public Health Agency. [online] Available at: https://www.publichealth.hscni.net/publications/saving-mothers-lives-2003-2005.

3 NICE (2015). Overview | Diabetes in pregnancy: management from preconception to the postnatal period | Guidance | NICE. [online] Nice.org.uk. Available at: https://www.nice.org.uk/guidance/ng3.

4 Feig, D. S. et al. (2017) "Continuous Glucose Monitoring in Pregnant Women with Type 1 Diabetes (conceptt): A Multicentre International Randomised Controlled Trial," The Lancet, 390(10110), pp. 2347–2359.

5 https://diabetes-resources-production.s3.eu-west-1.amazonaws.com/resources-s3/public/2022-04/Managing%20diabetes%20and%20hyperglycaemia%20during%20labour%20and%20birth%20April%202022.pdf

6 Vounzoulaki E, Khunti K, Abner SC, Tan BK, Davies MJ, Gillies CL. Progression to type 2 diabetes in women with a known history of gestational diabetes: systematic review and meta-analysis. BMJ. 2020 May 13;369:m1361. doi: 10.1136/bmj.m1361

7 GOV.UK. (2022). Final report of the Ockenden review. [online] Available at: https://www.gov.uk/government/publications/final-report-of-the-ockenden-review