

# Pre-conception planned pregnancy improves glycaemic control in women with diabetes

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The Confidential Enquiry into Maternal and Child Health (CEMACH, 2005) revealed that the baby of a woman with pre-gestational diabetes is five times more likely to be stillborn, three times more likely to die in the first month of life, the baby is twice as likely to have a congenital malformation and is twice as likely to be over 4 kg. Recommendations included pre-conception services, multidisciplinary care and improving care for women with type 2 diabetes (CEMACH, 2007).

## Aim and methodology

The aim of this audit was to collect information on outcomes of diabetes in pregnancy to highlight the areas where improvements are feasible using our current resources. Retrospective data were collected on 100 pregnancies. The data presented here are an extract from an Abracadabra Diabetes Nursing Conference Award entry.

## Results

Of the 100 women audited (mean age 31 years), 63 had type 1 diabetes and 37 had type 2 diabetes. Thirty-eight per cent attended the clinical midwife specialist-led

pre-conception care clinic and 44% took pre-pregnancy folic acid 5 mg.

HbA<sub>1c</sub> levels on first appointment (booking) were significantly different between the two groups: 7% (53 mmol/mol) for women with type 1 diabetes and 6.7% (50 mmol/mol) for those with type 2 diabetes ( $P=0.035$ ). Mean HbA<sub>1c</sub> level on booking for those who attended for pre-conception care was 6.6% (49 mmol/mol) compared with 7.5% (58 mmol/mol) for those who did not attend. Median HbA<sub>1c</sub> level at delivery was 6.1% (43 mmol/mol).

There was no statistically significant association between birth weight and HbA<sub>1c</sub> level on booking ( $P=0.51$ ) or at delivery ( $P=0.183$ ). A total of 35% of women had a vaginal delivery and 42% had a caesarean section (national background caesarian section rate 28%; National Perinatal Epidemiology Centre [NPEC], 2008).

Live births accounted for 74% of deliveries. Twenty-three per cent were miscarriages, which is similar to the national background rate, and 3% were stillbirths (national background rate 0.5%; NPEC, 2008); there were no neonatal deaths (national background rate 0.4%; NPEC, 2008). Neither the 21% incidence of

macrosomia (birth weight >4 kg;  $P=0.157$ ) or median birth weight of 3440 g ( $P=0.088$ ) were significantly different between women with type 1 or 2 diabetes.

## Conclusion

This cohort of women achieved reasonable HbA<sub>1c</sub> levels before attending for pre-conception care and the majority achieved good glycaemic control with conventional insulin treatment. In this audit, women who participated in pre-conception planned pregnancy achieved better glycaemic control.

The authors recommended that the number of women with type 1 or 2 diabetes attending for pre-conception care should be increased; that pregnant women with pre-existing diabetes should be encouraged to book for antenatal care before 8 weeks gestation; and that caesarian section rates should be further reduced. ■

Confidential Enquiry into Maternal and Child Health (2005) *Pregnancy in Women with Type 1 and 2 Diabetes in 2002–2003*. CEMACH, London

Confidential Enquiry into Maternal and Child Health (2007) *Diabetes in Pregnancy: Are We Providing the Best Care? Executive Summary*. CEMACH, London

National Perinatal Epidemiology Centre (2008) *Perinatal Mortality Report*. NPEC, Cork, Ireland

## The IMPROVE™ Control Campaign

The Global Task Force on Glycaemic Control is a group of physicians and specialists in the field of diabetes from around the world that is working in collaboration with Novo Nordisk with the ultimate aim of identifying and developing practical solutions to the global problem of poor glycaemic control in people with diabetes. Since early 2008, the *Journal of Diabetes Nursing* has featured articles and submissions under the banner of IMPROVE™ Control – a global public awareness campaign focused on the need for improved control, as part of the Task Force's work. Throughout 2011, the journal will continue to bring you articles on the barriers to good glycaemic control, and submissions from *you*, our readers, outlining the strategies you have used to help people with diabetes improve their control.

For example, perhaps you have implemented a new educational session in your area that has helped break down barriers to control, or maybe you have set up a new referral pathway that has helped improve HbA<sub>1c</sub> levels. The *Journal of Diabetes Nursing* would like to help you share your practical solutions for improving control, no matter how big or small, with other nurses working in diabetes. We encourage you to take part in this global initiative by calling 020 7627 1510, or emailing [jdn@sbcommunicationsgroup.com](mailto:jdn@sbcommunicationsgroup.com).

