Pregnancy in women with type 1 and type 2 diabetes in the West Midlands 2002-03.

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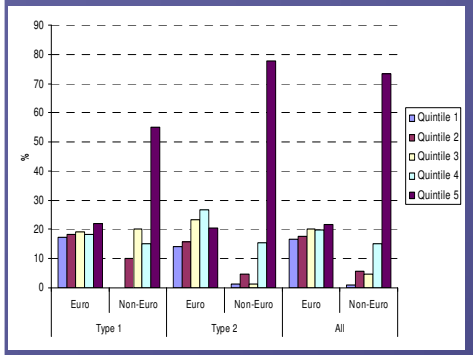
West Midlands Cohort & Confidential Enquiry.

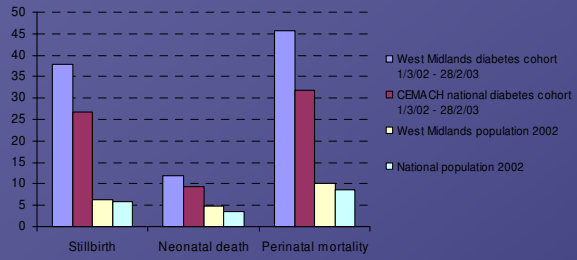
Out of the National CEMACH diabetes in Pregnancy Programme the West Midlands(WM) commissioned its own regional analysis of the outcomes & care provided in pregnancies complicated by maternal type 1 & 2 diabetes. All 20 maternity Units in WM provided cases from 2002-03 and all data was analysed at the WMPI and checked. In addition a Case-control Confidential Enquiry of 77 selected cases was performed in the 3 regions of the WM by dedicated expert panels and detailed analysis performed on this data.

Key Results

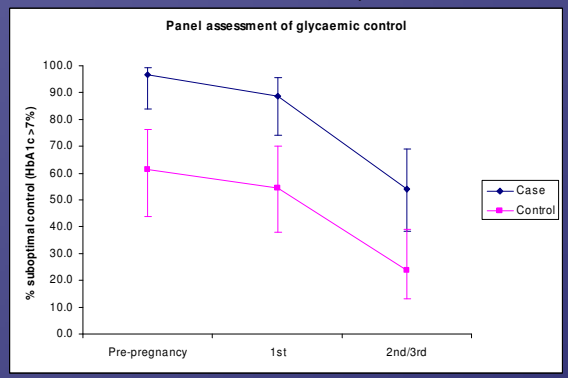
405 women having type 1 or 2 diabetes at least 12 months prior to delivery were registered in the study between 01/03/02 and 28/02/03. In total there were 418 pregnancies resulting in 426 babies of which 370 were alive at 28 days. There were 30 early fetal losses, 6 late fetal losses, 17 stillbirths and 3 neonatal deaths (NND). 32 pregnancies were complicated by a major congenital abnormality (CA).



35% of the cohort in WM were affected by type 2 diabetes, a significantly greater proportion than nationally ($p<0.01$). The majority of these women are non-European (predominantly Asian), older, multiparous and almost completely located in the areas of highest social deprivation.



The overall perinatal mortality rate for the WM cohort is 45.6/1000 births – almost 4.5 times higher than in the general WM maternity population. Stillbirths show the greatest difference. Non-European ethnic groups (Type 2 diabetes) have more than twice the PNMR of Europeans in WM.



The case-control Confidential Enquiry examined matched cases resulting in poor obstetric outcomes (stillbirth, NND or major CA) against those resulting in a live infant at 28 days. The expert panel graded the diabetic, glycaemic, antenatal and postnatal care provided for each case and examined the causes of suboptimal care.
Poor glycaemic control throughout pregnancy but especially in the pre-pregnancy and first trimester periods was found to be associated with poor pregnancy outcomes.

Preconception counselling:

Standard: A preconception clinic should be run jointly by the adult diabetes service and the maternity service for women with diabetes wishing to become pregnant.

Table 4.1a Documentation of pre pregnancy counselling and control

	Type 1 (%) n = 269	Type 2 (%) n = 149	All women (%) n = 418
Pre-pregnancy counselling documented	82 (30.4%)	36 (24.2%)	118(28.2%)
Pre-pregnancy HbA1C	125 (46.4%)	48 (32.2%)	173 (41.4%)
Pre-pregnancy HbA1C < 7% in those that had a test	31 (24.8%)	22 (45.8%)	53 (30.6%)

Most women in WM, as nationally, are poorly prepared for pregnancy. Pre-pregnancy care encompasses optimization of glycaemic control, initation of high-dose Folic Acid , investigation and documentation of possible diabetic complications and the discussion of pregnancy risks in relation to maternal diabetes such as congenital abnormalities. Almost ¾ of women are not able to/ choosing not to access preconception care and those that do receive this care in an adult diabetes clinic instead of through a dedicated pre-pregnancy diabetes service.

Conclusions and Recommendations

1. Type 2 diabetes – WM has a significantly higher prevalence of type 2 diabetes in pregnancy mainly occuring in Asian minority groups. Issues relating to accessing health care before and in early pregnancy and education informing this group of the importance of pre-pregnancy counselling and glycaemic control needs to be addressed across the region.
2. Preconception care – in WM the key to improving pregnancy outcomes and reducing congenital abnormality rates is through increasing the uptake of preconception care. New and innovative ways of spreading this message is required as well as regionally setting up a network of pre-pregnancy diabetic clinics with easy access.

Diabetes in Pregnancy Advisory Group (DiPAG) and West Midlands Antenatal diabetes Association (WANDA)

Both of these groups have been formed with a remit within WM to improve care provided. This can be achieved initally by:-

a) Standardized antenatal diabetes notes
b) Region-wide implemented protocols for the delivery of pre-pregnancy and pregnancy care
c) Region-wide database of all diabetic pregnancies for audit and research purposes.

NHS perinatal institute for maternal and child health