

Diabetes in pregnancy: The challenges posed



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Approximately 1 in 250 pregnancies are complicated by pre-existing type 1 and 2 diabetes. In addition, it is estimated that up to 3.5% of pregnancies in the UK are complicated by gestational diabetes, which can be defined as glucose intolerance with onset or first recognition during pregnancy; however, the prevalence of gestational diabetes varies in relation to specific ethnic groups (British Medical Journal, 2012). It has been suggested that the increase in women with pre-existing diabetes in pregnancy is a reflection of the increased prevalence of type 2 diabetes in women of childbearing age (Coulthard and Hawthorne, 2008; Lawrence et al, 2008; Temple and Murphy, 2010), with a reported increase of approximately 4% per year of type 1 diabetes in children and young people in the UK (Patterson et al, 2009). There is well-documented evidence of the increased adverse pregnancy outcome for pregnancies complicated by type 1, type 2 and gestational diabetes, which include congenital abnormality, maternal hypertension and a higher incidence of caesarean sections and instrumental-assisted births (Casson et al, 1997; Evers et al, 2004; Macintosh et al, 2006; Bell et al, 2008). Furthermore, the infant of a mother with diabetes has an increased risk of admission to neonatal or specialist care.

Nearly a decade ago, the Confidential Enquiry into Maternal and Child Health (CEMACH) published several reports that examined aspects of care and service provision for women with pre-existing diabetes (CEMACH, 2004; 2005; 2007) and the diabetes National Service Framework (Department of Health, 2007) set out standards for the optimal management of diabetes and pregnancy, highlighting the importance of a multidisciplinary care team to not only provide care, but also to support and empower pregnant women with diabetes. Although there have been many improvements in care and services provision for women living with diabetes, there are still many

challenges for healthcare professionals and women both prior to and during pregnancy and the post-birth period.

Pre-conceptual care

Women with diabetes who are planning to become pregnant should be offered pre-conceptual care and counselling so they embark on pregnancy in optimal health. They should be informed of the benefits of optimal diabetes control before conception and during pregnancy, and how well-controlled diabetes will influence the incidence of adverse pregnancy outcome and optimise the pregnancy experience. In a systematic review, Wahabi et al (2010) concluded that pre-conception care was effective in reducing maternal hyperglycaemia in early pregnancy, congenital malformations and pre-term delivery. This is supported by the work of Murphy et al (2010) who found that pre-conceptual care improved glycaemic control in pregnancies complicated by both type 1 and 2 diabetes. For women with type 1 diabetes, pre-conceptual care should be a crucial element of diabetes care from puberty throughout their reproductive years and it has been advocated that pre-conceptual care should be given prior to stopping contraception. In a study by McCorry et al (2012), they identified a need for a familiar and supportive relationship between the woman and healthcare professional to facilitate care and advice that is individualised and appropriate to their needs.

For women with type 2 diabetes, pre-conceptual care should be offered in primary care, in which GPs and practice nurses may require additional training to attain the required skills and knowledge. For women with type 1 and 2 diabetes, once pregnant early referral to specialist care for assessment is essential to identify care needs that require the expertise of the combined diabetes, obstetric, nursing and midwifery multidisciplinary team.

Antenatal care

The multidisciplinary team caring for women with pregnancies complicated by diabetes should, according to CEMACH (2007) and the Department of Health (2007), comprise a diabetes physician, obstetrician, midwife, dietitian and DSN, with the aim of optimising pregnancy outcome. Clinical experts have identified pregnancy with diabetes as of sufficiently high risk to merit individualised care; however, in a study by Stenhouse et al (2012), participants were found to be dissatisfied with specialist maternity services as they felt that they were seen as simply “diabetic” and not as women who had a pregnancy complicated by diabetes. This study suggested that although women acknowledged that care during pregnancy requires specialists with knowledge of diabetes, there is also a need for specialist knowledge of pregnancy. Women reported that healthcare professionals were focused on the blood glucose levels and pregnancy-related concerns were not addressed. These findings support the work of Lavender et al (2010) who suggest a greater understanding of the challenges faced by women whose pregnancy is complicated by diabetes may assist in achieving a more positive pregnancy outcomes. In a review of the role of diabetes specialist midwives (DSMs), Irwin (2010) advocated that DSMs have a unique role in providing care and support to help empower and support women with diabetes to have a positive pregnancy and birthing experience.

Intrapartum management and care

The management of labour involves midwives providing supportive care such as emotional, informational and physical support, as well as advocacy and recognising when labour is deviating from the normal process. During labour, care is provided by midwives and obstetricians, and the majority of women will have a labour companion from her social network. Women with diabetes have additional care requirements, including the maintenance of blood glucose levels, usually set by local guidelines and clinical pathways. These goals are set to minimise the known risk of fetal acidemia and neonatal hypoglycaemia associated with maternal hyperglycaemia (Mimouni et al, 1988). Midwives need the skills and knowledge

to manage the additional physical and emotional needs of the woman with diabetes appropriately, acting as an advocate when required especially in situations where there is a need for assisted birth, forceps vacuum extraction, an operative delivery or caesarean section.

In a recent study, Stenhouse and Letherby (unpublished) deduced that midwives felt that they did not possess sufficient knowledge of diabetes to adequately care for the physical needs of the women but that they could give emotional support. Letherby et al (2012) found that women with pre-existing diabetes shared the responsibility of managing their complex pregnancy experience with their partners and mothers, trusting their judgement more than that of the healthcare professionals, indicating that healthcare professionals need to acknowledge and respect the expertise of women and their significant others in managing the pregnancy process.

Post-birth care

The mother

Women with type 1 and 2 diabetes are at an increased risk of fluctuating blood glucose levels as a consequence of the rapid changes in maternal hormone concentrations following delivery of the placenta and breastfeeding. The benefits of breastfeeding for women with diabetes and their offspring are well documented, including improved maternal glycaemic control (Saez-de-Ibarra et al, 2003), a reduction in insulin requirement (Sorkio et al, 2010), an improved cholesterol profile (Jensen et al, 1989) and a shorter time to return to pre-birth weight (Ip et al, 2007). However, research by Stage et al (2006) suggests that symptomatic maternal hypoglycaemic episodes lead women to stop breastfeeding their infants. Stenhouse and Letherby (2010) found that, in the antenatal period, information given to women related to infant feeding focused on breastfeeding, despite a high proportion of women with diabetes not intending to breastfeed their infants for a variety of reasons. This highlights the need for healthcare professionals caring for women with pregnancies complicated by diabetes to give appropriate and relevant infant-feeding information in the antenatal period irrespective of whether the woman intends to breastfeed her infant. In the post-birth phase, women with

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gestational diabetes may continue to monitor their blood glucose for 24 hours but generally immediate post-birth care is similar to that which is provided to women without diabetes. However, it is immensely important that women with gestational diabetes receive advice regarding diet, physical activity and lifestyle interventions to arrest the known risk of progression to develop type 2 diabetes.

The infant

Infants of mothers with type 1, type 2 and gestational diabetes are at an increased risk of developing neonatal hypoglycaemia due to fetal hyperinsulinaemia in response to the maternal hyperglycaemia in pregnancy that continues post-birth (Deshpande and Ward Platt, 2005). To prevent the occurrence of neonatal hypoglycaemia, it is advised that mothers with diabetes should breastfeed as soon after birth as practicable (CEMACH, 2007). In a study of the infants of mothers with gestational diabetes, it was found that infants who had been breastfed in the delivery room had a lower incidence of hypoglycaemia than those fed with formula (Chertok et al, 2009). This supports the need for healthcare professionals to give accurate information related to infant feeding so that women and their families can make an informed choice concerning their infant-feeding intentions.

Conclusion

It is undisputed that the number of women embarking on pregnancy with diabetes is rising. This may reflect the rising levels of obesity in the UK and the increased prevalence of children diagnosed with type 1 diabetes. The incidence of gestational diabetes is paralleling this rise and again has been linked to the rise in obesity in women of childbearing age. This poses challenges to all healthcare professionals caring for women of childbearing age not only during pregnancy but also pre-conceptually and post-birth. Each member of the team brings specific expertise and experience and all should work in close collaboration with each other, acknowledging when appropriate the expertise of women, their family, and supporters in this process so women with diabetes can embark on pregnancy in optimum health, and have a positive pregnancy and birthing experience. ■

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