

WOMEN MISSING OUT ON POST-PARTUM SCREENING AFTER GESTATIONAL DIABETES

Having gestational diabetes increases the risk of developing type 2 diabetes in the future. Two new studies, from Germany and the UK, show that rates of post-partum type 2 diabetes screening and follow-up are low, meaning opportunities to improve long-term maternal health are being missed.



Between 4% and 20% of pregnant women develop gestational diabetes mellitus (GDM). This wide variation in incidence stems from differences in screening methods and diagnostic criteria around the world, as well as in the databases that are used.

In Germany, guidelines issued in 2012 recommended screening for GDM between 24 + 0 and 27 + 6 weeks of gestation. In 2014 and 2015, around 80% of women with statutory health insurance in Germany were screened and the overall prevalence of GDM was 13.2%.

As is well known, GDM can lead to serious perinatal health consequences for mother and child. And women who have had GDM also run a long-term risk of developing type 2 diabetes. Therefore, follow-up screening after birth and beyond is recommended to support prevention and early identification of the condition.

Research into post-partum type 2 diabetes screening reveals rates of 3.4% to 83.1%, depending on the method of screening, data collection and the population studied. Currently, such data is lacking for Germany. Accordingly,

Ute Linnenkamp and Gregory Gordon Greiner, of the German Center for Diabetes Research, and colleagues, have drawn on the German GestDiab register to assess the level of such screening between 2015 and 2017. They also looked at whether the likelihood of post-partum screening was associated with maternal characteristics or pregnancy outcomes.

The GestDiab register study

The GestDiab register monitors the treatment of pregnant women in

specialist diabetes centres (DSP) around Germany, of which 78.2% are located in the North Rhine region, with 11.6% being based in Westphalia and the rest in other regions of the country. The DSPs offer specialist endocrinology multidisciplinary care and would usually look after any woman with diabetes in pregnancy. This study covers 12,991 women with their first GDM-diagnosed pregnancy registered in GestDiab during the study period (some had had GDM in previous pregnancies and some had more than one such pregnancy during the study period).

Guidelines recommend a post-partum 75g oral glucose tolerance test (ppOGTT) 6–12 weeks after giving birth, so the researchers were looking for evidence of this in the GestDiab register. They found that 38.2% of participants had had the ppOGTT, of whom half had received it within the recommended time frame. Analysis of participant characteristics revealed that women with Turkish or Arabic as their first language were less likely to attend ppOGTT, as were those with higher HbA1c or higher fasting glucose at the point of their GDM diagnosis. Other factors making it less likely that a woman would have her post-partum test were smoking, having a BMI (Body Mass Index) of 35 or above and having a previous pregnancy that was complicated by GDM. However, women older than 27 and those treated with insulin were more likely to attend for their ppOGTT.

A missed opportunity

In this study, more than 60% of women with GDM in Germany did not attend for their post-partum type 2 diabetes screening. The researchers say this is a missed opportunity to detect glucose intolerance – and initiate preventive measures – in a high-risk group. An earlier study, also from the GestDiab register, similarly found a participation rate of just 43% in screening. Participant characteristics associated with attendance were not analysed. But they did find that the participation rate varied from 6% to 100% between the different DSPs, a factor worth exploring further.

It looks as if Germany is far from unique in having sub-optimal rates of post-partum type 2 diabetes screening. Studies from the United States, Australia, Canada, Poland and Turkey (see also paper from UK researchers - Screening for type 2 diabetes after GDM in the UK) show low screening rates. Similarly, they show that attendance is associated with older age, higher income or education and treatment with insulin. Younger age and smoking are often associated with low attendance rates. The authors conclude that general health awareness is the key to women attending their diabetes screen after they have given birth. Care team have a responsibility to ensure women are tested for type 2 diabetes, 6 to 13 weeks after giving birth. For practical



reasons this could take place as part of the six-week postnatal check and offer an annual HbA1c test to women with gestational diabetes, who have a negative postnatal test for diabetes. One unanswered question, however, is whether women do not attend for post-partum screening, because they are unaware of it or whether they choose not to attend.

Further research into women's knowledge and opinions of this screening is key to improving uptake. Certainly, studies in Australia found that information on post-partum type 2 diabetes prevention is limited and targeted campaigns did improve participation rates. It would therefore be good to investigate barriers and enabling factors, from both the woman's and the healthcare provider's point of view, to improve GDM post-partum care. For GDM care should not just be about safeguarding the mother and child during pregnancy and birth – it should extend to looking out for the woman's future type 2 diabetes risk.



This is a digested version of Linnenkamp U, Greiner G, Haaster B et al. **Postpartum screening of women with GDM in specialised practices: Data from 12,991 women in the GestDiab register.** Diabetic Medicine 2022:e14861. <https://doi.org/10.1111/dme.14861>

PHOTOS: ADOBE STOCK

SCREENING FOR TYPE 2 DIABETES AFTER GDM IN THE UK

Women with a history of GDM have a nearly 10-fold increased risk of developing type 2 diabetes, according to research from Elpida Vounzoulaki and colleagues at the University of Leicester. In the UK, as elsewhere, early post-partum screening is recommended and the National Institute for Health and Care Excellence (NICE), recommends annual screening in subsequent years. The data suggest that screening attendance, both in the post-partum period and in the following years, is suboptimal. However, there are no large contemporary studies on post-partum type 2 diabetes screening in primary care in the UK. Little is known of the factors that influence attendance at screening and follow-up – particularly whether there are ethnic differences. Accordingly, the University of Leicester team has carried out a large retrospective observational cohort study to estimate rates of annual glucose screening in women with GDM and to identify any differences by ethnicity.

Individual patient data, covering 10,868 women with GDM with a minimum of 12 months of post-partum follow-up, was drawn from the Clinical Practice Research Datalink, a primary care database with data from general practices throughout the UK. The primary outcome was screening attendance after birth for any glucose screening test recorded in the database. Attendance by ethnicity was also recorded, along with a number of other factors such as age, pregnancy

outcome, smoking status, deprivation index and so on.

The rate of early post-partum screening within the first three months after the birth, as recommended by NICE, was low at 28.39% of participants. Altogether, only around half received this first test within a year, rising to 85% within five years. Annual follow-up screening was low too, at a rate of 23.87% of women being tested on average once a year.

Rates among South Asian women were higher than average, though, at 34.11%. The rates for other ethnic groups were: White: 24.17%, Black: 25.53%, Mixed: 22.86%, Other: 25.55%. Older age at GDM diagnosis was also associated with a higher chance of being screened – women aged 41 or over were 85% more likely to be screened than women under 20.

As far as other factors were concerned, women who had polycystic ovary symptoms (PCOS) were significantly more likely to have attended screening compared with those without the condition. Treatment with metformin and insulin for GDM was also associated with a two-fold increase in the likelihood of post-partum screening or both. Age, PCOS and medication for GDM might flag up these women as being more at risk of post-partum type 2 diabetes and healthcare professionals are more likely to stress the importance of screening for these women. Women in England were more likely to attend screening within one year of delivery compared with

women in Scotland and Wales. However, there was no association between deprivation and the likelihood of being tested.

Improving post-partum screening

The findings from the Leicester team is consistent with those previously reported from the UK and from elsewhere, see also the German study above.

Of course, healthcare systems differ around the world. In the UK, there's no consensus over whether primary or secondary care is responsible for the short-term follow-up for women with GDM and it's been suggested that longer-term follow-up be done in primary care. The authors think this lack of clarity might have meant some women being lost to follow-up.

So, as with the German study, the recommendations for improving screening include a need to improve women's understanding of GDM and type 2 diabetes so they appreciate the importance of screening and follow-up. The Leicester team also mentions research that shows that substituting HbA1c testing for the oral glucose tolerance test (OGTT) test at the first post-partum screen may improve attendance, as it is more convenient. So, this is one avenue that could be explored, although further research is needed to assess the effectiveness of HbA1c versus OGTT in this context.

Kamlesh Khunti CBE, Professor of Primary Care Diabetes and Vascular Medicine at the University of Leicester, who was involved in this research, says, "This is an important study because it highlights a major issue in screening for gestational diabetes in those with a history of the condition. We are now urging policy makers and healthcare managers to increase this type of screening to reduce the number of those with undiagnosed type 2 diabetes."

Reference: Vounzoulaki E, Khunti K, Miłkowska J et al(2022). **Primary Care Diabetes v 16, Issue 3, p445–451.** <https://doi.org/10.1016/j.pcd.2022.03.008>

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