OBSERVATIONS

Difficulties in the Use of Risk Factors to Screen for Gestational Diabetes Mellitus

Hyperglycemia and pregnancy complications are strongly associated (1), so managing gestational diabetes mellitus (GDM) reduces complications (2) and preventing progression from GDM to type 2 diabetes reduces diabetes prevalence (3). The questions of whether and how to screen for GDM , including risk-factor screening, have been widely debated (3). We hypothesized that, in New Zealand, limited use of risk factors by those undertaking screening (midwives) could contribute to the underscreening of high-risk women (3). We therefore sent to 131 midwives of the Waikato region a one-page open questionnaire about screening with a stamped, addressed envelope as well as a reminder postcard after 14 days. When appropriate, we then also followed up by telephone.

Of the 83 (63%) respondents, 75% worked full-time and 70% trained in New Zealand. Some form of screening for GDM was utilized by 82 of the 83 respondents (99%): 21% offered a 50-g glucose challenge test to all women and the remainder offered a glucose challenge test or an oral glucose tolerance test if one or more risk factors were present (referred to as risk factor screening). The proportion recalling each national risk factor (3) was 89% for family history of diabetes, 63% for glycosuria, 55% for obesity, 51% for past history of GDM, 43% for ethnicity, 26% for age (ranging 30–38 years), and 17% for past fetal death. Other risk factors provided were past or current big baby syndrome (35 and 31%, respectively), polyhydramnios (6%), history of general obstetric complications (11%), diabetes symptoms (11%), and polycystic ovarian syndrome (2%). A median of 3 risk factors (interquartile range 2–4) was given. Full-time staff were more likely to list ethnicity as an indication to screen (38.7 vs. 11.1%; $P = 0.043$), but otherwise no difference was found between full- and part-time staff, and no difference was found between New Zealand– and overseas-trained midwives.

Risk factor recall, including any cutoffs, was clearly problematic for this well-trained workforce, which is required to undertake regular continuing professional education. Answers were largely independent of the background of the midwife and were probably recorded outside busy working hours, when similar or worse underidentification of high-risk women could occur.

Although such risk factor screening may appear more attractive and cheaper (4) than immediate blood testing, it is clearly fraught with the risk of preventing women with undiagnosed GDM from accessing the appropriate intervention and obstructing the improvement of diabetes outcomes at both the personal and population levels (5). We postulate that the use of a complex, multistage system could have contributed to the underscreening of non-European women and high-risk European women (3). In a potentially retrograde step, the recent U.K. National Institute for Health and Clinical Excellence guidelines chose only five risk factors, which would have excluded the majority of women obtaining benefit in the Australian Carbohydrate Intolerance Study in Pregnant Women trial group (2). The guidelines have even omitted polycystic ovarian syndrome, which is associated with a high risk of GDM and undiagnosed diabetes in pregnancy. Presumably, the complexity around the use of risk factors extends to the process of selecting which to use. Our data suggest that risk factor screening does not take into account the inevitable difficulties in implementation, including the potential for substantial underdiagnosis of GDM, even among those at high current and future risk.

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DOI: 10.2337/dc08-1313

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Acknowledgments— We thank the local diabetes team for funding the survey and the National Institute for Health Research, Cambridge Biomedical Research Centre, for its support given to D.S.

No potential conflicts of interest relevant to this article were reported.

We thank the New Zealand College of Midwives for its helpful comments and suggestions, Corli Roodt for her assistance, and the midwives for their participation.

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