

Optimizing postpartum care for the patient with gestational diabetes mellitus



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Gestational diabetes mellitus poses well-established risks to both the mother and infant. As >50% of women with gestational diabetes mellitus will develop type 2 diabetes mellitus in their lifetime, performing postpartum oral glucose tolerance testing is paramount to initiation of appropriate lifestyle interventions and pharmacologic therapy. Nonetheless, test completion among women with gestational diabetes mellitus is estimated to be <50%, with particularly low rates in Latina patients, as well as patients with public insurance, low education levels, and low health literacy. Data suggest our current health services infrastructure loses patients in the postpartum gap between pregnancy-focused care and primary care. Previous studies have suggested strategies to promote oral glucose tolerance testing completion to identify type 2 diabetes mellitus. Based on existing evidence, we propose best practices for the postpartum care of women with gestational diabetes mellitus: (1) enhanced patient support for identifying long-term health care providers, (2) patient-centered medical home utilization when possible, (3) patient and provider test reminders, and (4) formalized obstetrician-primary care provider hand offs using the Situation Background Assessment Recommendation (SBAR) mnemonic. These strategies deserve future investigation to solidify a multilevel approach for identifying and preventing the continuum of diabetes.

Key words: gestational diabetes mellitus, glucose tolerance testing, patient hand offs, postpartum care, preventive medicine, Situation Background Assessment Recommendation, transitions of care, type 2 diabetes mellitus

Introduction

Gestational diabetes mellitus (GDM) is defined as glucose intolerance developed during pregnancy.¹ As with type 2 diabetes mellitus (T2DM), the incidence of GDM is growing; GDM currently affects an estimated 5-10% of pregnancies in the United States, with approximately 250,000 new cases each year.² Not only

has there been a steady increase in the prevalence of GDM over the past 20 years, but the rising national trends of advanced maternal age, obesity, and decreased physical activity will contribute to a further increase in the prevalence of GDM in years to come.³

The diagnosis of GDM bears associated short-term and long-term risks for both the infant and mother. The correlation between GDM and macrosomia, neonatal hypoglycemia, birth trauma, and subsequent overweight in the offspring has been well established.⁴ For the mother, GDM is associated with increased risk of hypertensive disorders, cesarean delivery, and other perinatal complications.⁵ Furthermore, 30% of women with GDM remain glucose intolerant after delivery, and over half ultimately receive the diagnosis of overt diabetes.⁶ The risks of T2DM in pregnancies subsequent to an index pregnancy with GDM are amplified beyond those incurred by GDM alone.⁷⁻⁹

The first step in long-term risk management of women with GDM is postpartum glucose tolerance testing. Groups such as the American College of Obstetricians and Gynecologists (ACOG) and the American Diabetes Association (ADA) recommend that women with GDM receive care 6-12 weeks after delivery to assess blood pressure, body mass index, and metabolic profile, in addition to routine postpartum concerns (Table 1). Women are additionally recommended to visit their primary care provider (PCP) within a year of delivery; PCPs may perform further metabolic testing, recommend pharmacologic therapy, and utilize lifestyle modalities to promote weight loss, which has been shown to reduce the onset of diabetes, as demonstrated in the Diabetes Prevention Program.¹⁰⁻¹³

Despite these recommendations, data reveal that <50% of women with GDM partake in any form of postpartum glucose testing.¹⁴⁻¹⁸ Our goal is to use a public health and health services perspective to discuss barriers to optimal postpartum care for women with GDM, review evidence-based interventions, and offer recommendations for a multilevel approach for serving this important and growing population.

Barriers to diabetes postpartum care

Receipt of appropriate postpartum glucose testing is contingent upon returning for postpartum care. Extensive literature explores common barriers to postpartum follow-up; such barriers include out-of-pocket costs, lack of health insurance, appointment wait times, child care availability, transportation costs, demanding work schedules, and lack of supported parental leave.¹⁹⁻²¹ Additional barriers specific to completing the postpartum oral glucose tolerance test (OGTT) can be divided into patient characteristics and beliefs, inadequate provider

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TABLE 1

Current guidelines for postpartum care of women with gestational diabetes mellitus

| | Recommended testing timeline and method | Recommended interventions | Offspring |
|--|---|---|--|
| American Diabetes Association ¹ | 6–12 wk postpartum Screen women with GDM for persistent diabetes using 75-g OGTT and nonpregnancy criteria • If normal results, retest every 1–3 y as part of lifelong screening, using any recommended glyce-mic test (hemoglobin A1c, fasting plasma glucose, or 75-g OGTT) | -Both metformin and intensive lifestyle intervention reduce progression of impaired glucose tolerance to diabetes -Education should emphasize family planning | -Offspring should be followed up closely for development of obesity and/or glucose tolerance abnormalities -Breast feeding encouraged |
| Endocrine Society ⁵⁶ | 24–72 h after delivery Fasting plasma glucose OR fasting self-monitored blood glucose 6–12 wk postpartum 2-h, 75-g OGTT • If normal results, retest periodically as well as before future pregnancies | -Counseling on lifestyle measures, need for future pregnancies to be planned, importance of regular diabetes screening -Blood glucose-lowering medication should be discontinued immediately after delivery unless overt diabetes is suspected | -Child's birthweight and mother's GDM status should become part of child's permanent medical record -Breast feeding encouraged |
| American College of Obstetricians and Gynecologists ⁵ | 6–12 wk postpartum Fasting plasma glucose test OR 75-g, 2-h OGTT • If normal results, retest every 3 y | -Refer for preventive therapy | |

GDM, gestational diabetes mellitus; OGTT, oral glucose tolerance test.

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training, and ineffective system-level practices, which are discussed below.

Several studies sought to identify individual characteristics associated with postpartum appointment attendance and OGTT completion in women with GDM. Patients who are Asian, older, nulliparous, or have medication-controlled GDM are more likely to return for testing.^{14,15,22} Risk factors for poor follow-up include Latina ethnicity, public insurance, less education, and lower health literacy.^{14,15,23} Low health literacy has a well-studied association with inadequate health service utilization, and in this particular population, limited literacy/numeracy could limit T2DM risk estimation or result in confusion regarding instructions.²⁴ Among women who report understanding their future T2DM risk but do not complete OGTT, many express

anxiety about receiving a T2DM diagnosis, citing fears of diabetes complications and needing lifelong insulin.^{20,21,25}

From a provider perspective, ACOG best practices include counseling women with GDM about their higher lifetime risk of cardiometabolic disease, as well as ensuring that these women undergo postpartum glucose screening.¹⁹ The ADA recommends women with a history of GDM receive education about lifestyle modification.¹ While the recommendations are well established, the literature suggests room for improvement in provider knowledge and implementation. One study, for example, showed the minority of obstetricians/gynecologists knew that >40% of women with GDM will progress to T2DM within 10 years.²⁶ This work also showed that exercise counseling and nutrition referrals were

low for both obstetrician/gynecologists and certified nurse-midwives.^{26,27}

Limited access to care and inadequate obstetric-primary care transitions pose system-level barriers to long-term diabetes prevention and management. In many states, Medicaid coverage for the mother extends to only 60 days postpartum.²⁸ Subsequent care may require women to pay out of pocket, which poses a cost burden that likely deters mothers from pursuing long-term health care. While new mothers are encouraged to seek health care through systems such as Affordable Care Act plans, enrollment can be challenging and may not occur in a timely manner. Thus, for women in underserved communities in particular, many of whom may not have physician contact prior to or between pregnancies, it can be especially difficult to focus on primary prevention.²⁹

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