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Gestational Diabetes Clinic for Indigent Latinos

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INTRODUCTION

• Gestational diabetes mellitus (GDM), "carbohydrate intolerance of variable severity with onset or fist recognition during pregnancy," results from insulin resistance and relative insulin deficiency usually in second trimester.[1]

•Gestational diabetes (GDM) impacts between 4% and 9% of all pregnancies.

•Gestational diabetes (GDM) results in increased fetal complications of macrosomia, shoulder dystocia and neonatal hyperglycemia as well as maternal risks of preeclampsia and polyhydramnois.

•Women who are Hispanic or Asian decent are at highest risk of developing GDM.

•Diagnosis [2]
- •Perform 75-gramoral glucose tolerance test (OGTT) at 24 – 28 weeks of gestation in women not previously diagnosed with diabetes
- •Diagnosis of GDM made when any of the following values are exceeded:
  - •Fasting ≥ 92 mg/dL
  - •1 hour ≥ 180 mg/dL
  - •2 hour ≥ 153 mg/dL

•Upon diagnosis of gestational diabetes, medical nutrition therapy, self-monitoring of blood glucose and fetal monitoring are initiated.

•Both Landon and Australian Carbohydrate Intolerance Study in Pregnant Women (ACHOIS) studies support active management of gestational diabetes even in the mild form to decrease fetal complications. [3,4]

References

•[1]Gabbe S. The gestational diabetes mellitus conferences. *Diabetes Care.* 1998;21 Supple 2:B1-2.
•[2]American Diabetes Association. Screening for and diagnosis of GDM. *Diabetes Care.* 2010;33 Suppl 1:S15-16.
•[3]Landon MB et al. A multicenter, randomized trial for mild gestational diabetes. *N Engl J Med.* 2009;361:1339-48.
•[4]Crowther CA et al. Effect of treatment of gestational diabetes mellitus on pregnancy outcomes. *N Engl J Med.* 2005;352:2477-86.

OBJECTIVE

The objective of this clinic is to provide gestational diabetes mellitus (GDM) care for indigent Latino women in order to prevent fetal and maternal complications.

METHODS

Hall County

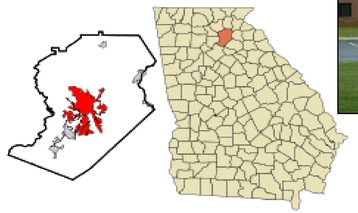
•It is located in Northeast Georgia, 50 miles northeast of Atlanta.
•Population is approximately 187,700.
•In 2007, average household income was $56,358.
•Industry: 24% service, 22.6% manufacturing, 14.2% government, 11.8% health care.
•Large Latino immigrant population due to strong manufacturing industry within the community.

History of Gestational Diabetes Clinic

•It is a clinic within the Hall County Health Department Prenatal Clinic which provides access to comprehensive, high quality, affordable prenatal care for low-income-uninsured women.
•This clinic began in the 1970s in response to increasing number of women without prenatal care who presented to local hospital for delivery.
•Initially, local physicians donated their time to the clinic to work with health department nursing staff to provide obstetric care.
•In the late 1980s, midwifery program was added to the clinic.
•In the mid 1990s, the gestational diabetes clinic was created within the prenatal clinic.
•Clinic currently functions as a collaboration of the Northeast Georgia Health System, The Longstreet Clinic and The Hall County Health Department.
•The percentage of Latinos in this clinic has grown from 20% in the early 1990s to over 90% currently.

Clinic Protocol

•PharmD, CDE clinician works in collaboration with local obstetrician
•American Diabetes Association Clinical Practice Recommendations and American College of Obstetricians and Gynecologists Committee on Practice Bulletin Obstetrics were guiding documents in developing protocol



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RESULTS

Patient Care Visits

Screening

•All prenatal patients screened using 1 hour glucose challenge test (GCT) at first prenatal visit.
- •If elevated blood glucose value, 2 hour glucose tolerance test (GTT) performed.

•If 1 hour GCT normal, 2 hour GTT performed at 24 – 28 weeks gestation.
•Nurses, NPs and CNMs refer patients with diagnose of gestational diabetes to the CDE for GDM care.
•Gestational patients with pre-existing Type 1 or 2 diabetes mellitus are also referred to CDM for care.

Initial Visit

•Occurs within 1 week of diagnosis of GDM.
•Education regarding pathophysiology of diabetes mellitus, importance of self-monitoring of blood , frequency and goal values of blood glucose, and blood glucose monitor instructions.
- •SMBG goal values for gestational diabetes
  - •Fasting: ≤ 95 mg/dL
  - •2 hour post prandial: ≤ 120 mg/dL
- •SMBG goal values for gestational patient with pre-existing diabetes
  - •Fasting: 60 -99 mg/dL
  - •2 hour post prandial: 100 – 129 mg/dL

•Referral to registered dietician(RD) for medical nutritional therapy (MNT)
•Patients with pre-existing Type 1 DM are continued on their current insulin regimen.
•Patients with pre-existing Type 2 DM are changed to either insulin or glyburide.
•Office visit copay includes blood glucose monitoring supplies and if needed, insulin and syringes at no additional costs.

Follow Up Visit

•All patients are seen 1 week after initial visit.
•CDE asses SMBG daily log (values and compliance) , weight , nocturia and if applicable, medication compliance.
•If patient achieves goal blood glucose values,
- •Continue to MNT and SMBG
- •Next clinic visit in 2 weeks

•If patient does not achieve goal blood glucose values
- •Reassess compliance with MNT
- •Consider initiation of insulin or glyburide
- •Continue SMBG
- •Next clinic visit in 1 week

Future Follow Up Visits

•Frequency dependent upon control of blood glucose values.
•Patients who achieve goal blood glucose values are seen every 2 weeks until delivery.
•Patients who have not achieved goal blood glucose values are seen every week until they achieve goal blood glucose values.

Post Partum Visit

•Ideally occurs at 6 weeks post partum.
•Patients with pre-existing Type 1 or 2 DM are referred onto an indigent clinic for ongoing diabetes care.
•Hemoglobin A1c (Hb A1c)is utilized to screen for Type 2 DM in patients with history of gestational diabetes.
- •Hb A1c < 5.7%: counseled to receive yearly blood glucose test, be physically active and eat balanced healthy diet
- •Hb A1c 5.7 – 6.4%: referred onto indigent clinic for monitoring of blood glucose by health care provider
- •Hb A1c ≥6.5%: referred onto indigent clinic for further diagnostic testing for Type 2 DM

Outcomes

Patient Compliance

•98% compliance with SMBG and taking diabetes medications
•85% compliance with MNT recommendations

Limitations

•Many of these patients have a distrust of healthcare professionals due to having no previous healthcare infrastructure.
•Patients are the care givers as well as the financial providers for their families which makes compliance with patient visits difficult at times.

CONCLUSIONS

•Lack of financial resources is the primary barrier, which include transportation costs, office visit fee, and expense of healthy foods make up majority of the cost.

•Funding of the clinic is an ongoing challenge as state funding has significantly decreased for this GDM program.

•This program is providing essential diabetes care for many indigent gestational patients with diabetes.