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Gestational Weight Gain Prior to Glucola and Risk of Gestational Diabetes Mellitus

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Keywords
Pregnancy Complications, Gestational Diabetes, Weight Gain, Glucose Tolerance Test, Hispanic Americans

Comments
Medical student Anna BuAbbud participated in this study as part of the Senior Scholars research program at the University of Massachusetts Medical School.

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Gestational Weight Gain Prior to Glucola and Risk of Gestational Diabetes Mellitus

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Background

- GDM complicates 4–7% of US pregnancies
- Latinos are at risk with higher rates of diabetes and obesity in Hispanic population compared to non-Hispanic whites
- Early-to-mid gestational weight gain (GWG) thought associated with increased prevalence of GDM, however 2009 Institute of Medicine (IOM) GWG guidelines concluded insufficient evidence regarding association

Materials and Methods

- Objective
  
  To investigate associations of GWG adherence as per 2009 IOM guidelines prior to 1-hour 50g glucose tolerance test (GTT), or glucola, with GDM diagnoses in Latinas.

- Study Flow

- Results
  
  - Subjects used in analysis (n=1156, Fig. 2)
  
  - Demographic Characteristics, comparison between included (n=838) and excluded (n=318) subjects (Table 2), BMI (n=838, Fig. 3) and GWG Adherence (n=838, Fig. 4) of included subjects.
    - Excluded subjects with significantly higher gravidity (p=0.049), and more Spanish-only speakers (p=0.025).
    - 86 of 838 diagnosed with GDM (10.3%, Fig. 5)
    - By 2009 IOM guidelines, 1/189 (6.9%), 2/204 (10.8%) and 3/445 (11.5%) with inadequate, appropriate and excessive gain respectively diagnosed with GDM (Fig. 6).
    - No significant association between prepregnancy GWG & BMI (p=0.212).

- Conclusions
  
  - Rate of GDM in preliminary cohort of Latina women almost double that of the general population (10.3%).
  
  - More overgainers diagnosed with GDM than under- or appropriate gainers.
    - Although there is a trend toward increased weight gain associated with increased gestational diabetes risk, this association was not statistically significant.
  
  - Further evaluation warranted within high-risk subgroups.
  
  - Data to be combined and re-assessed with larger study from UMass Amherst.