

ASSESSMENT OF PREGNANCY OUTCOMES ACCORDING TO THE AMOUNT OF GESTATIONAL WEIGHT GAIN IN WOMEN WITH GESTATIONAL DIABETES MELLITUS.

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Background: We published data indicating gestational weight gain(GWG) is a predictor of large and small for gestational age birthweight(LGA, SGA) in offspring of women with gestational diabetes mellitus(GDM)¹. A recent publication suggests excessive GWG increases LGA and macrosomia(>4kg) risk².

Aims: To explore effects of GWG on pregnancy outcomes in a multi-ethnic group of GDM women.

Methods: We analysed de-identified prospectively collected data(1993-2013), from women diagnosed by ADIPS(1998) criteria, comparing those with complete data including; pre-pregnancy BMI (based on self-reported weight), last clinic weight recorded <4 weeks pre-delivery, treatment modality and birth outcomes. We assessed GWG compared to Institute of Medicine(IOM) recommendations as <IOM, =IOM or >IOM across 4 BMI Categories: Underweight (BMI<18.5kg/m²); Healthy Weight (BMI ≥18.5≤24.9kg/m²); Overweight (BMI ≥25≤29.9kg/m²); Obese (BMI ≥30kg/m²). We thence assessed 5 outcomes: percent insulin use, caesarean delivery, SGA, LGA, plus 6-8 week post-partum oGTT data where available. Birthweights were categorized SGA(< 10th percentile) and LGA(> 90th percentile) using the website www.gestation.net³. Chi-squared analyses were undertaken and odds ratios calculated; statistical significance p<0.05.

Results: There were 3178 records, with post-partum oGTT data available for 1891(59.5%). Figure1 graphs show increasing trends for insulin therapy, caesarean delivery and LGA, and a decreasing trend for SGA, with increasing GWG. There is no significant relationship with post-partum oGTT abnormality. We found a highly significant increase in macrosomia (>4kg) of 16.4%(>IOM women) versus 6.5%(=IOM)(p<0.0001), and for >4.5kg of 2.6% versus 0.7% respectively (p=0.0005). Table 1 shows the odds ratio calculations for the outcomes assessed for those with >IOM GWG versus those who achieved recommended weight gain (=IOM).

Figure1

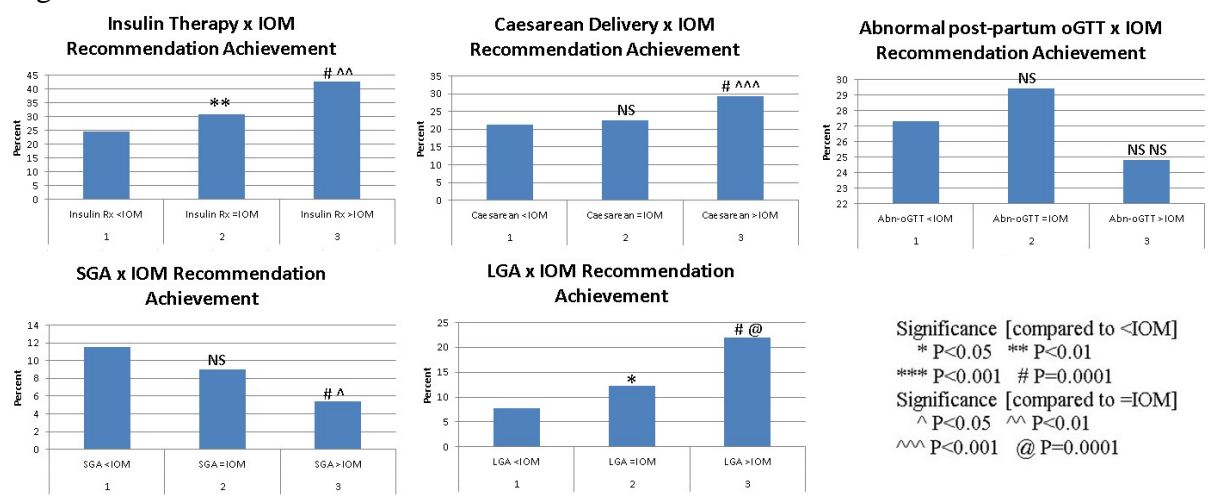


Table 1

	Insulin Use	Caesarean Delivery	SGA	LGA	Abnormal post-partum OGTT
Odds Ratio for GWG >IOM vs =IOM	1.42 (1.17-1.72)	1.67 (1.41-2.00)	0.58 (0.42-0.81)	2.02 (1.60-2.55)	N/A
p-value	<0.001	<0.001	<0.02	<0.001	NS

Conclusions: In this multi-ethnic cohort, increasing GWG had significant effects on four of five outcomes assessed, most notably on LGA. Management of diabetes in pregnancy needs to not only focus on glucose parameters but also on gestational weight gain.

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References:

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