

# ETHNIC DIFFERENCES IN THE AMOUNT OF GESTATIONAL WEIGHT GAIN IN WOMEN WITH GESTATIONAL DIABETES MELLITUS

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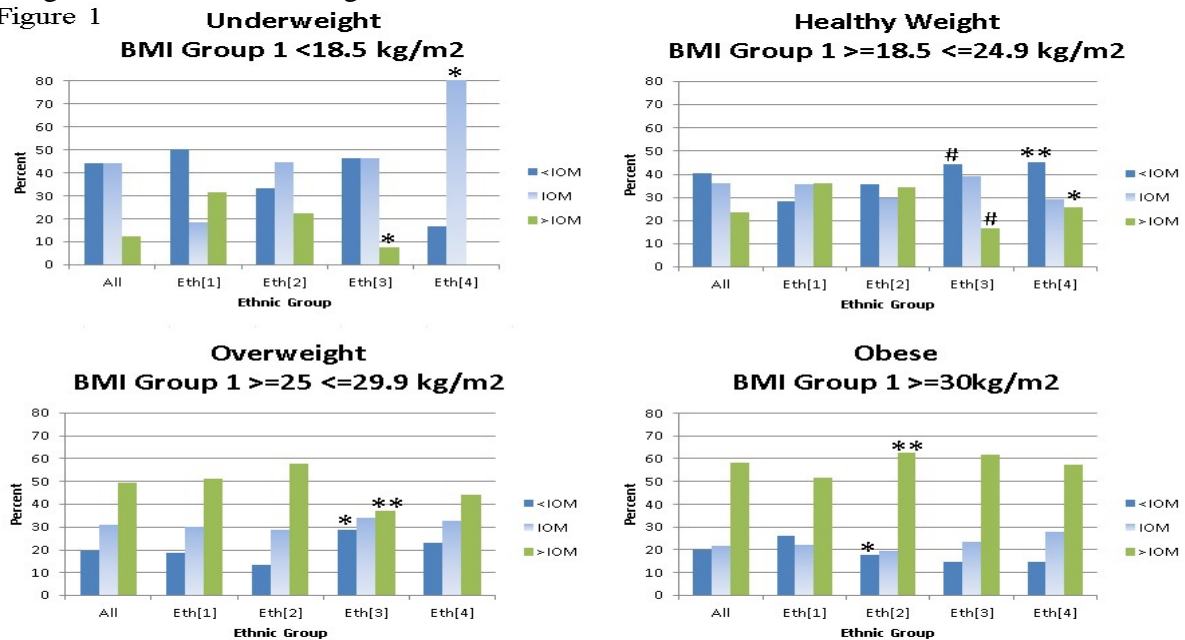
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**Background:** The 2009 Institute of Medicine(IOM) revised guidelines for pregnancy weight gain<sup>1</sup>, cited in the 2013 RANZCOG position statement on obesity management in pregnancy<sup>2</sup>, recommend optimal gestational weight gain(GWG) ranges according to maternal BMI.

**Aim:** To compare by ethnicity the amount of GWG occurring in GDM women. **Methods:** We analysed de-identified prospectively collected data for GDM women diagnosed by ADIPS(1998) criteria<sup>3</sup> from 1993-2013, comparing those with complete data including; ethnicity, pre-pregnancy BMI (based on self-reported weight), and a last clinic weight recorded <4 weeks pre-delivery. We compared total gestational weight gain in 3 groupings: (<IOM, =IOM and >IOM recommendation), in the four largest ethnic groups: (European[Eth1], Middle Eastern[Eth2], South-East Asian[Eth3] and South Asian[Eth4]), across 4 BMI Categories: Underweight(BMI<18.5kg/m<sup>2</sup>); Normal Weight(BMI ≥18.5≤24.9kg/m<sup>2</sup>); Overweight(BMI≥25≤29.9kg/m<sup>2</sup>); and Obese(BMI≥30kg/m<sup>2</sup>). Chi squared tests were undertaken; statistical significance p<0.05.

**Results:** There were 3179 records(All) meeting entry criteria: 123 Underweight(3.6%), 1462 Normal Weight(46.0%), 853 Overweight(26.8%) and 741 Obese(23.3%). Of these, 3017(94.9%) were in 4 Ethnic Categories: Eth[1](n=705); Eth[2](n=858); Eth[3](n=1101); Eth[4](n=353). Mean last clinic weight was 1.3±0.9 weeks before delivery. There was a significant difference in mean GWG between Eth[2] who gained most, 12.9±6.6kg and Eth[4] who gained least, 11.5±5.1kg(p<0.05). GWG by IOM recommendations, within BMI categories, are shown in Figure 1.

Figure 1



Compared to Eth[1] \* p<0.05 \*\* p<0.01 # p=0.0001

Amongst all GDM women, the percentage with GWG above IOM recommendations increases through the BMI categories. The patterns of insufficient and excessive GWG are more heterogeneous in underweight and normal BMI women, but become more homogeneous in overweight and obese women across the 4 ethnicities examined.

**Conclusions:**

In this large multi-ethnic background cohort, patterns of GWG differed within different BMI category groups and differed by ethnic category. This may be the first report of ethnic specific weight gain in GDM in Australia. Future interventions could specifically target ethnic categories less likely to achieve recommended maternal weight gain.

**Acknowledgements:**

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**References:**

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2. Royal Australian and New Zealand College of Obstetricians and Gynaecologists New College Statement (C-Obs 49): Management of Obesity in Pregnancy (2013), Pages 1-9.
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