ARE THE INSTITUTE OF MEDICINE TARGETS FOR PREGNANCY WEIGHT GAIN APPROPRIATE IN WOMEN WITH GESTATIONAL DIABETES?
T. Wong1,2, R.A. Barnes1, G.P. Ross1,3, J.R. Flack1,2
1Diabetes Centre Bankstown-Lidcombe Hospital, Bankstown NSW 2200
2University of New South Wales, Sydney, Australia.
3University of Sydney, Sydney, Australia.

Background: The Institute of Medicine (IOM)1,2 has published weight gain targets according to pre-pregnancy BMI. These criteria are intended for normal pregnancies but may be excessive for women with gestational diabetes (GDM).

Aims: To compare gestational weight gain (GWG) in women with small (SGA), appropriate (AGA) and large (LGA) for gestational age infants and assess birthweight when IOM targets were modified.

Methods: We analysed de-identified prospectively collected data (1993-2013), for women diagnosed by ADIPS (1998) criteria, comparing those with complete data including; pre-pregnancy BMI (using self-reported weight), last clinic weight recorded <4 weeks pre-delivery, and birth outcomes. We compared GWG in women with SGA, AGA and LGA infants against recommended IOM GWG ranges, across four BMI Categories: Underweight (BMI < 18.5 kg/m²); Healthy Weight (BMI ≥ 18.5 < 24.9 kg/m²); Overweight (BMI ≥ 25 ≤ 29.9 kg/m²); Obese (BMI ≥ 30 kg/m²) using box-plots. We thence compared SGA and LGA rates in women achieving GWG according to three target ranges; IOM upper limit minus 2 kg, IOM upper and lower limit minus 2 kg, and a range matching the interquartile maternal GWG range for AGA infants in our cohort. Birthweights were categorized SGA (< 10th percentile) and LGA (> 90th percentile) using www.gestation.net3.

Results: There were 3181 records with GWG and birthweight data: 123 Underweight (3.9%), 1463 Normal Weight (46.0%), 854 Overweight (26.8%) and 741 Obese (23.3%). In all BMI categories, median maternal GWG was highest with LGA and lowest with SGA infants. The range of GWG was broad in AGA infants, even with outliers excluded (Figure 1). Table 1 shows results of comparing the effect of three target ranges on SGA and LGA rates. Although the distribution and median GWG of AGA infants were different to IOM targets in all BMI categories (Figure 1), there was no reduction in SGA or LGA if target weight gain ranges were modified (Table 1).
Conclusions: Changing GWG targets did not yield improvements in birthweight (with more LGA in one instance) and thus does not support recommending changing GWG targets in GDM women.

Acknowledgements:
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References:

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<th>Table 1</th>
<th>Underweight</th>
<th>Healthy Weight</th>
<th>Overweight</th>
<th>Obese</th>
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<td>SGA: IOM vs IOM minus 2Kg UL</td>
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<td>LGA: IOM vs IOM minus 2Kg UL</td>
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<td>SGA: IOM vs interquartile maternal GWG range for AGA</td>
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<td>LGA: IOM vs interquartile maternal GWG range for AGA</td>
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<td>p&lt;0.05*</td>
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UL = Upper Limit of IOM Guideline Range
LL = Lower Limit of IOM Guideline Range
IOM vs IOM minus 2Kg UL (eg Underweight IOM becomes 12.5-16.0 [not 12.5-18.0 Kg])
IOM vs IOM minus 2Kg LL&UL (eg Underweight IOM becomes 10.5-16.0 [not 12.5-18.0 Kg])
*LGA rate was 11% in IOM group vs 18.9% in interquartile maternal GWG range for AGA