

Maternal characteristics influence pregnancy outcomes differently depending on ethnicity

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Background: Our institution services a high proportion of women with Gestational Diabetes Mellitus (GDM) from diverse ethnic backgrounds. Whilst risk factors for adverse pregnancy outcomes have been well documented, there are few data quantitating the varying contribution these may have to outcomes in women of different ethnicities.

Aim: To explore the significance of pre-pregnancy BMI (BMI), total gestational weight gain (GWG) and fasting glucose (FBGL) on key neonatal and maternal outcomes in four ethnic groups.

Methods: We compared de-identified prospectively collected data (1993-2015), for singleton births from women diagnosed with GDM on a 75-gram OGTT (1,2). We analysed antenatal characteristics including BMI (based on self-reported pre-gestational weight), GWG and FBGL in the four largest ethnic groups: European (n=954), Middle-Eastern (n=1167), South-East Asian (n=1407) and South Asian (n=512). Using logistic regression analysis we calculated log-B statistics as odds ratios (OR) and associated 95% confidence intervals (95% CI) for large for gestational age birth-weight (LGA) and caesarean delivery (CS) in each ethnic group.

Results: There were 4040 records with data available across 4 ethnic groups: Figure 1 shows that each increment of GWG or FBGL had the largest impact on LGA in South-East Asians compared to other ethnic groups. Overall changes in FBGL influenced LGA and CS (figure 2) rates more than the other variables did except in South Asians. BMI correlated with LGA only in South Asians (figure 1) but was associated with more CS in South-East Asians than other ethnicities (figure 2).

Figure 1: Odds Ratios for LGA determined by 3 independent variables according to ethnicity

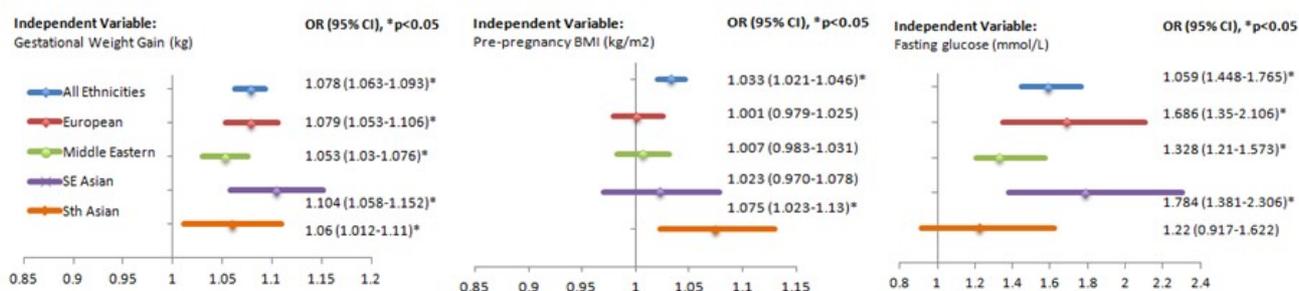
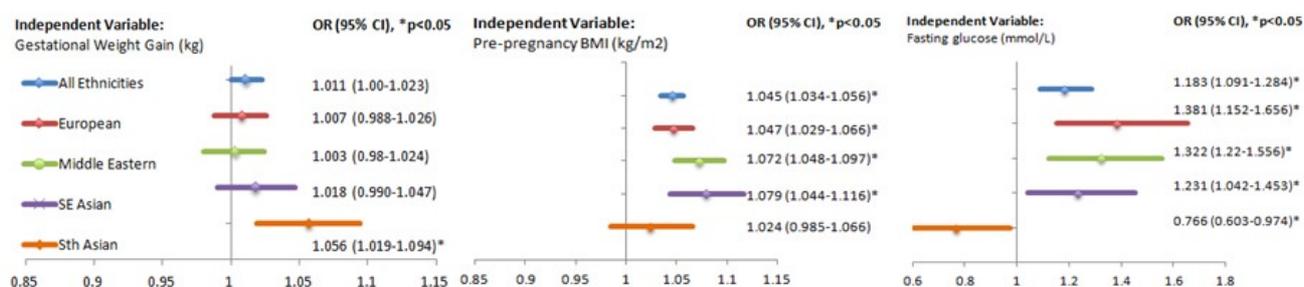


Figure 2: Odds Ratios for CS determined by 3 independent variables according to ethnicity



Conclusions: Individual antenatal characteristics contribute to LGA and CS rates differently depending on ethnicity. For example, a higher FBGL or GWG had a strong association with LGA in South-East Asians while BMI influenced CS more in this subgroup. A more tailored risk-stratification approach may help to guide management decisions for particular ethnic groups.

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References:

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