P-0957 PRE-GESTATIONAL BODY MASS INDEX AND DEVELOPMENT OF GESTATIONAL DIABETES MELLITUS IN WOMEN OF ARAB ETHNICITY

G. Kadayam Guruswami¹, M. Al Biate², A. Ismail², P. Hegde², P. Menon¹, I.A. Shaafie¹, T. Ille¹, K. Eissa³, Z. Elbaz¹

BACKGROUND

- United Arab Emirates has a high prevalence of obesity in the population
- Maternal weight gain is a risk factor for gestational diabetes mellitus (GDM)
- Hyperglycemic intrauterine environment is associated pregnancy complications
- GDM is also associated with long term impact on offspring in terms of increased risk for obesity and diabetes
- Early identification and better management of GDM is important

AIM

- To study association of pre-gestational Body Mass Index (BMI) with development of GDM in women of Arab ethnicity in UAE.

METHODS

- Prospective study, 227 Arab pregnant women (Nationalities shown in Fig. 1)
- Pre-pregnancy weight noted and BMI calculated
- First trimester HbA1c and Pregnancy Associated Plasma protein-A (PAPP-A) levels measured.
- One step screening for GDM in second trimester (American Diabetes Association 2016 criteria used)
- Data was analyzed using SPSS 22.0.

RESULTS

Table 1: ANOVA HbA1c levels versus BMI

BMI	Percentage of women	
	HbA1c ≥5.4%	HbA1c ≥5.7%
Normal	43	23.3
Overweight	54	35.3
Obese	75*	40.6**
*p=0.015		**p=0.023

Table 2: Comparison of first trimester parameters between Normal women and women with GDM

Parameter	Normal	GDM	Sig. (2 tailed)
Age(Years)	28.03 ±4.9	29.59±5.0	0.120
BMI (Kg/m ²)	25.35±4.4	28.95±5.73	0.003*
Hb (%)	11.85±1.17	12.31± 0.96	0.069
HbA1c (%)	5.48±0.35	5.43±0.38	0.506
PAPP-A (MoM)	1.52±1.51	1.32±1.35	0.496

CONCLUSIONS

- 52.6% of pregnant Arab women are overweight or obese before pregnancy.
- Women with higher BMI had higher first trimester HbA1c levels, lower Pregnancy Associated plasma protein-A levels.
- BMI was the only significant predictor of GDM. Women with higher pre-gestational BMI were at increased risk for development of Gestational Diabetes Mellitus in the second trimester.
- Interventions are needed to address obesity in women of reproductive age in the UAE since it not only predisposes them to GDM, it can have long term effects on the offspring as well.