

# IMPACT OF GESTATIONAL DIABETES MELLITUS ON RECRUITMENT OF PELVIC FLOOR MUSCLES DURING HOLD CONTRACTION: COHORT STUDY



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## Hypothesis / aims of study

Evidences suggest that gestational diabetes mellitus (GDM) damages the striated muscle, a fact that may explain the high prevalence of UI and PFMD. The aim of study was evaluate and compare the Levator Hiatus area assessed at second trimester and later, at third trimester, by transperineal Three-dimensional Ultrasound from pregnant women with GDM.

## Study design, materials and methods

Prospective cohort study (2015 and 2016); Protocol Number 972.104.

Inclusion Criteria: nulliparous or primiparous women who had undergone 1 previous elective Cesarean delivery between 24-30 weeks of gestation divided in two groups: GDM and normoglycemic (NG) according to ADA 2015. Among the exclusion criteria were UI or previous IU, neurological diseases, dropouts, preterm birth.

A standard translabial ultrasound scan was performed. A GE Voluson i 3D Ultrasound system (GE Medical Systems) with a RAB 2-6-RS 3D transducer was used for image acquisition. The transducer was placed on the perineum in the mid-sagittal plane with the women in lithotomy position. Three-dimensional ultrasound scans of the pelvic floor anatomy with a sweep angle of 85° were obtained at rest.

## Results

Eighteen pregnant women were included, 9 normoglycemic with mean age of 28,2+4,2 (22-34) years old and 9 Pregnant women with Gestational Diabetes with mean age of 26,2+5 (20-35) years old..

	Normoglycemics	GDM	p*
24-28 WG	13,4 $\pm$ 2,8 (9,94-18,52)	16,5 $\pm$ 1,6 (13,45- 18,67)	0,01
34-38 WG	15,8 $\pm$ 2,7 (10,6-18,4)	17,3 $\pm$ 2,4 (12,95-20,67)	0,35
p**	0,036	0,281	

## Interpretation of results

Both groups were similar related to Age and Maternal weight gain. This study suggests that there are anatomical changes observed by 3D ultrasound of the pelvic floor during pregnancy complicated with Gestational Diabetes.

Further studies are needed to elucidate the potential role of GDM in the anatomical and functional changes of pelvic floor during pregnancy.