

TITLE ABSTRACT: =Racial differences in pelvic anatomy by magnetic resonance imaging

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TEXTE OF ABSTRACT IN FOLLOWING ORDER=

INTRODUCTION AND OBJECTIVES: To use static and dynamic magnetic resonance images (MRI) to compare dimensions of the bony pelvis and soft tissue structures in a sample of African-American and white women.

METHODS: This study used data from 234 participants in the Childbirth and Pelvic Symptoms Imaging Study, a cohort study of 104 primiparous women with an obstetrical anal sphincter tear, 94 who delivered vaginally without a recognized anal sphincter tear, and 36 who delivered by cesarean without labor. Race was self-reported. At 6-12 months postpartum, rapid acquisition T2-weighted pelvic MRI were obtained. Bony and soft tissue dimensions were measured and compared between white and African-American participants using analysis of variance, controlling for delivery type and age.

RESULTS: The pelvic inlet was wider among 178 white women than 56 African-American women ($10.7\pm 0.7\text{cm}$ vs. $10.0\pm 0.7\text{cm}$, $p<0.0001$). The outlet was also wider (mean intertuberous diameter $12.3\pm 1.0\text{cm}$ vs. $11.8\pm 0.9\text{cm}$, $p<0.001$). There were no significant differences between racial groups in interspinous diameter, angle of the subpubic arch, anteriorposterior conjugate, levator thickness, or levator hiatus. In addition, among women who delivered vaginally without a sphincter tear, African-American women had more pelvic floor mobility than white women. This difference was not observed among women who had sustained an obstetrical sphincter tear.

CONCLUSION: White women have a wider pelvic inlet, wider outlet and shallower anteroposterior outlet than African-American women. In addition, after vaginal delivery, white women demonstrate less pelvic floor mobility. These differences may contribute to observed racial differences in obstetrical outcomes and to the development of pelvic floor disorders.

Key words: racial differences, pelvimetry, magnetic resonance, incontinence, pelvic organ prolapse