least one visit in the assigned study arm, and a per compliance (PC) including those receiving at least five visits in the assigned study arm.

**RESULTS:** 2350 participants were enrolled with 1176 in GPNC and 1174 in IPNC. The study arms were balanced by race/ethnicity, with 40.6% Black, 36.9% White and 21.2% Hispanic women. Compared with IPNC, GPNC did not have lower rates of PTB in ITT (10.4% vs. 8.7%), mITT (10.0% vs. 8.5%), or PC (7.8% vs. 7.3%), p > 0.05 for all. Rates of LBW were also not statistically different between care groups. The racial disparities in PTB and LBW, especially between Black and White women, were smaller for GPNC in all analytic approaches. Additionally, the more GPNC sessions women attended, the smaller the difference in the rate of PTB and LBW between GPNC and IPNC.

**CONCLUSION:** Although there was no significant difference in overall PTB or LBW rates between GPNC and IPNC, GPNC was effective for reducing racial disparities in both PTB and LBW and women had better outcomes with increased exposure to GPNC. Future research warrants development of interventions for promoting GPNC attendance and reach.

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**3 EMG provides insights into preterm birth: Mid-trimester cervical shortening is associated with abnormal myometrial activation**

Ponnila Marinescu¹, Roger C. Young², Lauren Miller³, Jesse Llop⁴, Eva K. Pressman¹, Neil S. Seligman¹
¹University of Rochester Medical Center, Rochester, NY, ²PreTeL, Inc., Portland, OR, ³St. Lukes Hospital, Boise, ID, ⁴Independent Statistician, Rochester, NY

**OBJECTIVE:** Risk of preterm birth (PTB) increases with shortening cervical length (CL) in the mid-trimester; yet, pathophysiology is poorly understood. Uterine electromyography (uEMG) is a novel technology, which offers nuanced assessment of myometrial signaling, not observable with legacy tocodynamometry. We aimed to characterize uterine bioelectrical activity in pregnant patients with short cervical lengths (CL) in the mid-trimester.

**STUDY DESIGN:** Prospective cohort study of singleton, non-anomalous pregnancies from 16-22 wks. Subjects with normal CL (≥ 3.0 cm) were compared to subjects with short CL (< 2.5 cm) and further stratified by history of PTB. Multi-channel uEMG recordings were obtained for ~60 min. Primary outcome was median percentage of spike, short-burst, and burst signals. Secondary outcomes included linear regression analysis of signal percentage by CL and median signal percentage by PTB history.

**RESULTS:** 28 subjects were included, 10 with normal CL and 18 with short CL (9 with history of PTB). Spikes were the most commonly recorded signals and were higher in the normal CL cohort (96.3% [IQR 93.1-100.0%]) compared to the short CL cohort (75.2% [IQR 66.7-92.0%], P=0.001). In contrast, median percentages of short-bursts and bursts were significantly higher in subjects with short CL (17.3% [IQR 13.6-23.9%] vs 2.5% normal CL [IQR 0-5.5%], P=0.001). The same was true for bursts (6.6% [IQR 0-13.4%] vs 0% normal CL [IQR 0-2.8%], P=0.014). In assessing secondary outcomes, CL was inversely proportional to the percentage of observed short-bursts (P=0.013) and bursts (P=0.014). When accounting for PTB, subjects with short CL and history of PTB had higher burst percentages (12.8% [IQR 9.0-15.7%]) compared to those with short CL and no history of PTB (3.3% [IQR 0-5.0%], P=0.003). See Figure 1.

**CONCLUSION:** Short-burst and burst uEMG signals are observed more frequently in mid-trimester patients with short CL. The presence of these signals confirms that abnormal myometrial activation is present in mid-trimester patients at risk for PTB and may provide a plausible bio-physiologic basis for cervical shortening.