Comparison of cervical length measurement in the 3rd trimester using transvaginal or transperineal ultrasound

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Objective
Cervical length is often measured during the third trimester, especially in cases of threatened preterm labour. The gold standard is the transvaginal (TV) approach. A transabdominal approach is an alternative but it is often difficult to achieve a satisfactory image of the cervix in the third trimester. Transperineal (TP) ultrasound is considered less invasive and could offer a reliable alternative but has never been compared to the TV approach. The aim of this study was to compare the cervical length measurement obtained with the TV or the TP approach.

Methods
This was a prospective study, conducted between October 2014-April 2015. All women attending an academic fetal medicine unit for a routine 3rd trimester scan were offered a TP measurement of the cervical length, further to the standard TV assessment. A single investigator certified by the Fetal Medicine Foundation measured the cervical length in each woman three times using the TV and three more using the TP approach. Mean values of the TV and TP approach were compared by paired-samples t-test.

Results
A total of 100 cases were included in the study corresponding to 300 transvaginal and 300 perineal ultrasound measurements. Mean gestational week was 31.1 ± 5.8 weeks. No significant difference was observed between cervical length assessment with transvaginal and perineal approach. Mean cervical length was 33.2 ± 7.1 mm with transvaginal and 32.9 ± 7.0 mm with perineal ultrasound (p=0.226). Mean difference of measurement was 0.3 mm greater cervical length by using perineal. Mean difference ≥ 3mm was observed only in 6 cases. (8%).

Conclusion
Measurement of the cervical length in the third trimester of pregnancy with transperineal ultrasound may be a reliable alternative to the transvaginal approach, especially in cases with ruptured membranes or follow up of cervical shortening.