Sleep-Disordered Breathing and Pregnancy Outcomes in Women with PCOS: A Cohort Study

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Introduction
Polycystic Ovary Syndrome (PCOS) is a common cause of infertility and poor pregnancy outcomes. It has also been associated with an increased frequency of sleep-disordered breathing (SDB). SDB affects up to one third of pregnant women and has been shown to play a role in adverse pregnancy outcomes. However, no study has yet investigated the role of SDB in pregnancy outcomes of women with PCOS.

Methods
Third trimester pregnant women with PCOS were recruited from a large academic medical centre. Women completed sleep questionnaires including snoring frequency, the Epworth Sleepiness Scale, and the General Sleep Disturbance Scale. SDB was defined as habitual snoring (snoring ≥3 nights/week).

Results
89 women with PCOS were included. Mean age was 30.7±4.7 years and mean gestational age was 34±3.6 weeks. 37 women had SDB (42%). Those with SDB, compared to those without, were more likely to have chronic hypertension (27% vs. 10%, p=0.04), a trend for pre-eclampsia (16% vs. 6%, p=0.1), higher sleepiness scores (10.0±4.6 vs. 7.8±4.2 p=0.02), and poor daytime function (89% vs. 67% p=0.02). The frequency of type 2 diabetes was the same (27% vs. 29%). In a regression model, after adjusting for maternal age, obesity, type 2 diabetes, and smoking, SDB in women with PCOS was independently associated with chronic hypertension (odds ratio 7.5 [95%CI 1.2-44.8]), pre-eclampsia (odds ratio 5.8 [95%CI 1.1-28.2]), and excessive daytime sleepiness (odds ratio 6.1 [95%CI 1.8-20.3]).

Discussion
Underlying SDB in women with PCOS may contribute to adverse maternal outcomes. Pregnant women with PCOS may benefit from SDB screening. Studies utilizing objective assessment of SDB are needed for further understanding of the impact of SDB in this population.