

## CORRESPONDENCE

## Risk factors for sleep-disordered breathing in pregnancy

The stimulating paper of Pien *et al*<sup>1</sup> reported the findings of a prospective cohort study of pregnant women examining risk factors for sleep-disordered breathing (SDB). It was notable that, despite a marked increase in the number of women with obstructive sleep apnoea (OSA) from the first to third trimester (from 10.5% to 26.7%, respectively), there were no significant associations between any SDB variable and development of gestational hypertension or pre-eclampsia or with preterm delivery, gestational diabetes or low birth weight. The authors acknowledged that, in their study, determination of any associations between OSA and such secondary measures was limited due to low statistical power, relatively low numbers of participants with moderate or severe OSA or with gestational diabetes, and a lack of manifestation of OSA until the third trimester, the last of which might be relevant given the potential importance of pre-existing OSA compared with incident gestational OSA.<sup>2</sup>

It is also possible that the lack of an association between OSA and these secondary measures was due to the 'type' of SDB experienced by the participants in this study. Specifically, the majority of cases of third trimester OSA were characterised by arousal-associated hypopnoeas, in which case hypoxia, which has been previously found to be associated with hypertensive disorders of pregnancy and adverse maternal-fetal outcomes,<sup>3</sup> is not present. Given the results from animal studies showing that intermittent hypoxia can induce maternal hypertension<sup>4</sup> and growth restriction in offspring,<sup>5</sup> we questioned whether the authors had performed any subanalyses on the 'hypoxic load' in their participants, for example, the number of nocturnal oxygen desaturation events of varying severities. It is possible that maternal hypoxia (ie, intra-uterine hypoxemia) is a key factor underlying any association between OSA and hypertensive disorders of pregnancy and adverse maternal-fetal outcomes.

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