**Symptoms of depression and sleep apnea during pregnancy**

Karen Redhead1 ,Megan Galbally3,4,5Jennifer Walsh2, John Newnham3,5, , Peter Eastwood1, 2.

1. Centre for Sleep Science, School of Anatomy, Physiology & Human Biology, University of Western Australia
2. West Australian Sleep Disorders Research Institute, Sir Charles Gairdner Hospital, Australia.
3. Division of Obstetrics and Gynaecology, The University of Western Australia
4. Foundation Chair Perinatal Psychiatry, Murdoch University.
5. King Edward Memorial Hospital for Women, Australia

**Study Objectives:** The objective of this study was to investigate the relationship between OSA and depression in pregnant women. In pregnancy the prevalence of both OSA and depression increases. Previously Obstructive sleep apnea (OSA) and depression have been shown to be related with up to 40% of patients diagnosed with OSA having depressive symptoms.

**Methods:** 189 women ≥26 weeks pregnant were recruited from a tertiary perinatal hospital. Symptoms of depression (Edinburgh Postnatal Depression Scale, EPDS) and OSA (Apnea Hypopnea Index, AHI, using an ApneaLink device) were measured. Data were collected from medical records including participant age, ethnicity, parity, BMI, smoking status, history of depression and use of antidepressants.

**Results:** Of the consenting women, data from 124 were suitable for analysis. Twenty women (16 .1%) had OSA and eleven (8.8%) had depressive symptoms. Women with OSA (AHI≥5 events/hr) were more likely to have depressive symptoms (EPDS>12) after adjusting for covariates, odds ratio = 7.0, 95% CI [1.8-27.8]. Further, increasing severity of OSA was linearly related to increasing symptoms of depression (EPDS as a continuous variable), even when adjusting for covariates and when excluding sleep-related questions from the EPDS.

**Conclusion:** During late pregnancy women had seven times the odds of developing depressive symptoms if they had OSA. Furthermore, worsening OSA was related to increasing symptoms of depression. The direction of this relationship is unknown but is an important focus for future research.