noise types on sleep. This laboratory-based study investigated the impact of continuous full-night WFN exposure replicated from field recordings on polysomnography-measured (objective) and sleep diary-determined (subjective) sleep efficiency compared to a quiet control night.

Methods: Based on residential location and self-report data, 50 participants were categorised into three groups (14 living <10km from a wind farm and self-reporting sleep disturbance; 19 living <10km from a wind farm and self-reporting no sleep disturbance and 18 controls living in a quiet rural area). Participants underwent full in-laboratory polysomnography during exposure to continuous WFN (25 dB(A)) throughout the night and a quiet control night (background noise 19 dB(A)) in random order. Group and noise condition effects were examined via linear mixed model analysis.

Results: Participants (30 females) were aged (mean±SD) 54.9±17.6 range: 18–80 years. Sleep efficiency in the control condition was (median [interquartile range]) objective: 85.5 [77.4 to 91.2]%; subjective: 85.7 [69.2 to 92.7]%) versus the WFN condition (objective: 86.1 [78.6 to 91.7]% subjective: 85.8 [66.2 to 93.8]%) with no significant main or interaction effects of group or noise condition (all p's >0.05).

Conclusion: These results do not support that WFN at 25 dB(A) significantly impacts objective or subjective sleep efficiency in participants with or without prior WFN exposure or self-reported WFN-related sleep disturbance. Further analyses to investigate potential sleep micro-structural changes remain warranted.

O004

OBSTRUCTIVE SLEEP APNOEA SEVERITY IS ASSOCIATED WITH PARASYMPATHETIC WITHDRAWAL IN CORONARY ARTERY DISEASE

***Ucak S*[1,2]**, *Dissanayake H*[1,2], *Sutherland K*[1,2,6], *Bin Y*[1,2], *Skilton M*[1,4], *Patel S*[1,7], *Yee B*[6], *Bhindi R*[8], *Allahwala U*[8], *de Chazal P*[1,3], *Cistulli P*[1,2,6]

[1]Charles Perkins Centre, University of sydney, Sydney, Australia, [2]Northern Clinical School, University of sydney, Sydney, Australia, [3]School of Biomedical Engineering, Faculty of Engineering, University of Sydney, Sydney, Australia, [4]Boden Institute of Obesity, Nutrition, Exercise & Eating Disorders, University of Sydney, Sydney, Australia, [5]Department of Respiratory & Sleep Medicine, Royal Prince Alfred Hospital, Sydney, Australia, [6]Department of Respiratory & Sleep Medicine, Royal North Shore Hospital, Sydney, Australia, [7]Department of Cardiology, Royal Prince Alfred Hospital, Sydney, Australia, [8]Department of Cardiology, Royal North Shore Hospital, Sydney, Australia

Introduction: Patients with Coronary Artery Disease (CAD) are exposed to myocardial ischemia and hypoxia, resulting in altered autonomic function. Obstructive sleep apnoea (OSA) is highly prevalent in CAD and is associated with increased sympathetic activity which could further exacerbate cardiovascular risk. We aimed to determine whether OSA severity is associated with altered autonomic function in CAD patients.

Methods: Patients presenting to the coronary care unit with CAD underwent level 2 portable polysomnography to assess the presence and severity of OSA. Autonomic function was calculated from continuous blood pressure and 3-lead ECG 5 minute recordings while awake. Mean spontaneous baroreceptor sensitivity (sBRS msec/mmHg); vagally mediated heart rate variability (HRV) markers (pNN50%, RMSSD, HF-HRV); and, sympathetically mediated vascular autonomic function (LF-BPV) were measured. Autonomic function was assessed in relation to OSA severity (Apnoea Hypopnea Index, AHI; oxygen desaturation index, ODI).

Results: OSA was present in 49/51 (96%) participants with CAD (age 54±9 years; BMI 28.9±5.4 kg/m2; male 41(77%)). No association was found between sBRS and AHI. There was a modest inverse correlation between AHI and vagally mediated HRV (RMSSD, r= -0.28 p=0.04; HF, r= -0.31 p=0.03). AHI positively correlated with LF-SBP (r=0.29, p=0.04) suggesting upregulation of sympathetic modulation. Linear regression analyses, adjusted for age, sex, and BMI, showed AHI was a determinant of parasympathetically modulated HRV measures (pNN50% -0.25(0.12), p=0.05).

Conclusions: In patients with CAD, increased AHI was associated with parasympathetic withdrawal suggesting that OSA could increase poor cardiovascular prognosis in this population.

O005

COGNITIVE BEHAVIOURAL THERAPY AND LIGHT DARK THERAPY FOR POSTPARTUM INSOMNIA SYMPTOMS: A RANDOMISED CONTROLLED TRIAL

***Verma S*[1]**, *Quin N*[1], *Astbury L*[1], *Wellecke C*[1], *Wiley J*[1], *Davey M*[2], *Rajaratnam S*[1], *Bei B*[1,3]

[1]The Turner Institute for Brain and Mental Health, School of Psychological Sciences, Faculty of Medicine, Nursing and Health Sciences, Monash University, Clayton, Australia, [2]Melbourne Children's Sleep Unit, Monash Medical Centre, Clayton South, Australia, [3]Centre for Women's Mental Health, Department of Psychiatry, University of Melbourne, Royal Women's Hospital, Parkville, Australia

Introduction: Symptoms of postpartum insomnia are common however interventions remain scarce. Cognitive Behavioural Therapy (CBT) and Light Dark Therapy (LDT) target distinct mechanisms to improve sleep. This randomised controlled superiority trial compared CBT and LDT against treatment-as-usual (TAU) in reducing maternal postpartum insomnia symptoms.

Methods: Nulliparous females 4–12 months postpartum with self-reported symptoms of insomnia (Insomnia Severity Index scores >7) were included; excluded were those at risk or with high medical/psychiatric needs. Eligible participants were randomised 1:1:1 to 6 weeks of CBT, LDT (gaining light upon awakening, night-time light avoidance) or TAU. Interventions were therapist-assisted through two telephone calls and included automated self-help emails over six weeks. Symptoms of insomnia (ISI; primary outcome), sleep disturbance, fatigue, sleepiness, depression, and anxiety were assessed at baseline, mid-intervention, post-intervention, and 1-month post-intervention. Latent growth models were used.

Results: 114 participants (mean age=32.2±4.6 years) were randomised. There were significantly greater reductions in insomnia and sleep disturbance in both intervention groups with very large effect sizes (d>1·4, p<0·0001) from baseline to post-intervention compared to TAU; improvements were maintained at one-month follow-up. There were greater reductions in fatigue symptoms in the CBT group (d=0.85, p<.0001) but not LDT (p=0.11) compared to TAU; gains were maintained for CBT at follow-up. Changes in sleepiness, depression and anxiety over time were non-significant compared to TAU (p-values>0.08).

Conclusion: Therapist-assisted CBT and LDT are both efficacious for reducing postpartum insomnia symptoms. Findings were