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### CPAP AND ADVERSE CARDIOVASCULAR EVENTS IN OSA: ARE PARTICIPANTS OF RANDOMIZED TRIALS REPRESENTATIVE OF SLEEP CLINIC PATIENTS?

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**Introduction:** Randomized controlled trials (RCTs) have shown no reduction in adverse cardiovascular (CV) events in patients randomized to continuous positive airway pressure (CPAP) therapy for obstructive sleep apnea (OSA). This study examined whether randomized study populations were representative of OSA patients attending a sleep clinic.

**Methods:** Sleep clinic patients were 3,965 consecutive adults diagnosed with OSA by in-laboratory polysomnography from 2006–2010 at a tertiary hospital sleep clinic. Characteristics of these sleep clinic OSA patients were compared with participants of 5 well-known RCTs examining the effect of CPAP on adverse CV events in OSA. We determined the percentage of patients with severe (apnea hypopnea index, [AHI]≥30/h) or any OSA (AHI≥5/h) who met the selection criteria of each RCT, as well as identified those criteria that excluded the most patients.

**Results:** Compared to RCT participants, sleep clinic OSA patients were younger, sleepier, more likely to be female and less likely to have established CV disease. The percentage of patients with severe or any OSA who met the RCT selection criteria ranged from 1.2% to 20.2% and 0.8% to 21.1%, respectively. The selection criteria that excluded most patients were pre-existing CV disease, symptoms of excessive sleepiness, nocturnal hypoxemia and co-morbidities.

**Discussion:** A minority of sleep clinic patients diagnosed with OSA meet the selection criteria of RCTs of CPAP on adverse CV events in OSA. OSA populations in RCTs differ considerably from typical sleep clinic OSA patients. This suggests that the findings of RCTs may not be generalisable to most sleep clinic OSA patients.

## P120

### THE RELATIONSHIP BETWEEN SLEEP ARCHITECTURE AND COGNITION IN LATE-LIFE DEPRESSION

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**Introduction:** Depression in older people is associated with changes in sleep, however associations between sleep architecture and cognition have not yet been delineated. We examined sleep architecture in older people with and without depressive symptoms, and relationships with neuropsychological performance.

**Methods:** Adults over 50 years underwent overnight polysomnography and memory and executive function tests. Depression and controls groups were defined by a Geriatric Depression Scale-15 cut off score of 6. Sleep architectural outcomes included amount of slow wave sleep (SWS), rapid eye movement (REM) sleep, REM onset latency (ROL), NREM slow wave activity (SWA, 0.5–4 Hz), N2 sleep spindle density and REM density.

**Results:** The sample comprised of 71 participants with depressive symptoms and 101 controls (mean age both groups = 64, mean GDS-15 dep= 9.3, con= 1.8). There were no significant group differences in time spent in SWS, REM, REM density or SWA. Those with depressive symptoms had later ROL (p=.008) and less N2 sleep spindles (p=.03) compared to controls. A differential association was observed with less SWS being associated with poor memory recall in the depression group only (z=.342, p=0.008). No associations between sleep and executive function performance were observed.

**Discussion:** The link between less time in SWS and poorer memory in those with depressive symptoms could suggest that SWS is particularly pertinent for cognition in depression or that both sleep and cognition mechanisms are influenced by depressive state. Further studies are needed to determine if changes in sleep are linked with underlying neurobiological changes.

## P121

### COMPARISON OF ACTIGRAPHY VERSUS PSG AND PERCEPTION OF SLEEP IN PATIENTS WITH EXCESSIVE DAYTIME SLEEPINESS.

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Actigraphy is used as a validated measure of rest and sleep, however, there are reported differences in WASO in healthy individuals (Chinoy, 2021).

**Methods:** This study compares the sleep parameters from PSG with simultaneous overnight actigraphy on patients the night prior to MSLT. We also compare the actigraphy data collected on the week prior to the PSG with the patient's sleep diary.

22 subjects, age 38.7 ± 3.1 years, BMI 23.5 ± 1.4 kg/m2, 40.1% male, 4 participants were treated with CPAP.

**Results:** WASO was found to be under estimated by actigraphy versus PSG (y=-0.957x+18.014, R2=0.51), there is an increase in underestimation beyond 18minutes. Our data also show on overestimation of sleep onset latency by actigraphy versus PSG when sleep latency is longer than 12 minutes (y=0.27x-12.04, R2=0.08). Total sleep time was perceived to be longer on the PSG night than the PSG data shows (y=0.68x-4.65, R2=0.21). Data demonstrated participants to overestimate their sleep period in their sleep diary compared to the actigraphy data (y=-0.87x+6.58, R2=0.21). T-tests showed a significant difference between WASO (minutes) detected by PSG and the actigraphy data (67.4 ± 8.9 vs 33.3 ± 3.9 p=0.0007). There were no other significant differences in the datasets.

**Conclusion:** Actigraphy uses activity data and light detection to estimate rest and sleep periods in wearers. Our data reflects expected differences reported in the literature of actigraphy data versus PSG due to the limitation of actigraphy being able to differentiate between sleep and motionless wakefulness.