an interaction effect between CPAP and time ($F(1, 38) = 0.006$, $p = 0.94$) on IL-6 level. Similarly, there was neither an effect of time ($F(1, 38) = 1.68$, $p = 0.20$), nor an interaction effect between CPAP and time ($F(1, 38) = 0.17$, $p = 0.68$) on CRP level.
Conclusion: IL-6 and CRP levels did not change significantly with CPAP over a one month period in OSA patients.
Support: By the DSR, KAU, Jeddah, KSA. No: KEP-2-140-39

0681

COMPARISON OF UPPER AIRWAY STIMULATION OUTCOMES BETWEEN REGIONS AND BMI GROUPS FROM THE ADHERE REGISTRY

Walia, H. K.[1] Mehra, R.[1] Kominsky, A.[1] Kent, D.[2] Pham, H.[2] Upender, R.[2] Manchanda, S.[3]
[1]Cleveland Clinic, Cleveland, OH, [2]Vanderbilt University Medical Center, Nashville, TN, [3]Indiana University, Indianapolis, IN.

Introduction: As factors influencing Upper Airway Stimulation (UAS) effectiveness in obstructive sleep apnea (OSA) patients are of interest, we compared changes in apnea hypopnea index (AHI) and Epworth Sleepiness Scale (ESS) based on region and baseline body mass index (BMI).
Methods: Patients ($15 \geq AHI \leq 65$) of the ADHERE registry with AHI at one-year were grouped by region (Europe (EU) vs United States (US)), and BMI ($\leq 32 kg/m^2$ vs $32\text{-}35 kg/m^2$). T-tests and equivalence testing (if the former non-significant) was performed using two-one-sided t-tests. Equivalence margin for AHI was set between -5 and 5 and -2 and 2 for ESS.
Results: By December 2019, 553 of 1600 patients completed 1-year follow-up. Average age was 60±11, 75% male, BMI 29±4 kg/m^2, ESS=11±6. Median AHI decreased from 33 to 10, median ESS decreased from 11 to 6. Response defined by 50% AHI reduction and <20 was 70%. Both regions had similar improvements in median AHI (EU: 33 to 10, US: 34 to 10, $p < 0.001$ vs baseline), median ESS (EU: 12 to 7; US: 11 to 6, $p<0.001$ vs baseline), and treatment response (EU: 71%, US: 68%). The mean AHI and ESS difference between regions met the equivalence margin. (AHI: mean difference: 0.34, CI:-1.78, 2.46, ESS: mean difference: 0.57, CI:-0.04, 1.19). Mean change in AHI at 1-year was equivalent in BMI groups (≤ 32 kg/m^2 vs 32-35 kg/m^2 respectively) median difference: -19.6 vs. -18.8; mean difference: -0.48, (CI:-3.95, 2.97) However, treatment response ratio was different; 73% vs. 60%, p=0.02, i.e. higher BMI patients were less likely to achieve AHI < 20. ESS scores were equivalent; median: 6 vs. 7; mean difference: -0.33, CI: [-1.16, 0.47].
Conclusion: UAS influence on OSA severity defined by AHI and sleepiness was similar irrespective of region and BMI category, however, treatment response defined by 50% AHI reduction and <20 was greater in those with lower BMI.
Support: The statistical support was provided by Inspire Medical System.

0682

EVALUATION OF AN INCENTIVE-BASED INTERVENTION TO IMPROVE 90-DAY ADHERENCE IN PAP-NAIVE PATIENTS

Merchant, G.[1] Valentine, K.[1] Hevener, W.[2] Willes, L.[3] Ta, D.[1] Hernandez, R.[1] Gagnon, R.[4] Chen, K.[4] Blase, A.[1]
[1]ResMed Science Center, San Diego, CA, [2]Sleep Data LLC, San Diego, CA, [3]Willes Consulting Group, Inc, Encinitas, CA, [4]Wellth, Los Angeles, CA.

Introduction: Although PAP therapy is the gold standard treatment for obstructive sleep apnea, adherence to treatment is suboptimal. Without sustained therapy adherence, patients are at risk of serious negative health outcomes. The objective of this study was to test whether a digitally delivered monetary and social reward program helped patients new to PAP therapy. Financial incentive schemes are effective in helping patients adhere to difficult medication or therapy plans. Additionally, there is an abundance of evidence that social support is a critical component to long-term health behavior change.
Methods: This prospective, randomized, single site pilot is evaluating the effectiveness of an app-based intervention in helping patients adhere to PAP therapy. The financial incentive design leverages loss aversion, and the social incentive design leverages the strength of close ties and variable reinforcement. The primary endpoint is mean PAP usage at 3 months. Secondary endpoints include Medicare compliance, change in functional status, and baseline scores of perceived disease severity, claustrophobia, coping skills, and health literacy as moderators of the intervention's effectiveness. Study recruitment is ongoing, with an expected sample size of 150 subjects.
Results: Of the 132 subjects enrolled, 56% are male, 61% are Caucasian, and 65% are married. The mean age is 49.6 ± 12.0 years and mean BMI is 32.4 ± 8.4 kg/m^2. Additional demographics such as income level, education level, and number of children along with the primary and secondary endpoints will be presented. A subgroup analysis of the primary endpoint will be generated for subjects identified as strugglers within the first 3 days of usage.
Conclusion: The results of this study will provide insight into methods such as financial and social incentives delivered via a smartphone on initial compliance with PAP therapy, as well as provide more information on the behavioral change associated with beginning PAP therapy.
Support: ResMed

0683

CPAP ADHERENCE RELATIVE TO SLEEP DURATION AND SLEEP PERIOD IN DIFFERENT STUDY POPULATIONS

Deering, S.[1] Shumard, T.[2] Zamora, T.[1] Martinez, S.[3] Stepnowsky, C. J.[1,5]
[1]VA San Diego Healthcare System, San Diego, CA, [2]American Sleep Apnea Association, Washington, DC, [3]COPD Foundation, Miami, FL, [4]VA San Diego Healthcare System, San Diego, CA, [5]University of California, San Diego, La Jolla, CA.

Introduction: CPAP is intended for use during sleep to alleviate disordered breathing. Most patients who use CPAP do so for only a portion of their sleep period, although anecdotally it is known that some also use CPAP while awake. We compared the unusually high levels of CPAP adherence found in a recent study of patients with Overlap Syndrome to a VA clinical population and to participants from the APPLES study.
Methods: CPAP adherence levels were taken from three sources: (1) The O2VERLAP Study, a large comparative effectiveness trial that used two different methods of providing information and support to current CPAP users diagnosed with both OSA and COPD. (2) Combined data from the four most recent clinical CPAP trials conducted at VA San Diego Healthcare System. (3) The APPLES study. Total sample sizes were 332, 957, and 405, respectively. Total sleep time (TST) and total sleep period (TSP) were assessed via