

**Methods:** Women veterans (N=179) without treated SDB, but with 1 or more SDB risk factors (identified from electronic medical records) completed baseline assessment as part of an ongoing controlled trial of treatment for SDB. Measures included: age, body mass index (BMI), Epworth Sleepiness Scale (ESS), Flinders Fatigue Scale (FFS), Insomnia Severity Index (ISI), Patient-Health Questionnaire 9-item (PHQ-9), STOP-BANG score, and apnea-hypopnea index (AHI via WatchPAT home sleep apnea testing). Descriptive statistics and bivariate correlations testing the relationship between AHI and other measures were performed.

**Results:** Mean age was 49.8 [ $\pm 13.8$ ] years and BMI 29.6 [ $\pm 6.0$ ] kg/m<sup>2</sup>. Mean ESS was 8.1, FFS 13.9, ISI 14.0, PHQ-9 7.1, and STOP-BANG score 2.7. Mean AHI was 15.4 [ $\pm 13.2$ ], where higher AHI correlated with higher BMI ( $r=0.3$ ,  $p<0.001$ ), higher STOP-BANG score ( $r=0.4$ ,  $p<0.001$ ) and older age ( $r=0.4$ ,  $p<0.001$ ).

**Conclusion:** These findings support the use of the STOP-BANG score to predict SDB severity in women veterans with risk factors for SDB. Age and BMI may be particularly important predictors of SDB in this population. Sleepiness, depression, insomnia, and fatigue questionnaires were not related to SDB severity. Further work is needed to understand the role of patient-reported symptoms in those at-risk for SDB and to inform guidelines for the recognition of SDB in this important and understudied population.

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## 0702

### REAL WORLD CHARACTERISTICS OF CENTRAL SLEEP APNEA: EXPERIENCE AT ONE ACADEMIC MEDICAL CENTER

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**Introduction:** Despite growing recognition of sleep disordered breathing, the prevalence and clinical characteristics of central sleep apnea (CSA) in real-world sleep referral populations remain poorly understood. We used historical data from the University of Pittsburgh Medical Center (UPMC) to assess the differences in patients with CSA compared to obstructive sleep apnea (OSA).

**Methods:** We retrospectively reviewed the medical records of 29,803 patients who underwent in-lab diagnostic polysomnography at six UPMC sleep labs between 2004 and 2018. Baseline clinical characteristics and polysomnography results including apnea hypopnea index (AHI), central apnea index (CAI), and obstructive apnea index (OAI) were extracted from the electronic health record. Among those with AHI $\geq 5$ , patients were categorized as CSA if CAI $\geq 5$  and CAI>OAI or OSA if OAI $\geq 5$  and OAI>CAI.

**Results:** CSA and OSA were identified in 2% (583/29,803) and 34% (10,090/29,803) of patients, respectively, while 32% had AHI $\geq 5$  but didn't meet either CSA or OSA criteria (CAI and OAI $< 5$  or CAI=OAI) and the remaining 32% had AHI $< 5$ . Median AHI was

41 events/hr for CSA vs. 36 events/hr for OSA ( $p<0.01$ ). The median percentage of apneas being central was 78% for CSA vs. 0% for OSA ( $p<0.01$ ). Compared to patients with OSA, those with CSA were more likely to be male (78% vs. 66%), older (58 vs. 54 yrs), have lower body mass index (32 vs. 35 kg/m<sup>2</sup>), have heart failure (23% vs. 13%), atrial fibrillation (19% vs. 8%), stroke (5% vs. 2%), myocardial infarction (7% vs. 2%), diabetes (27% vs. 22%) and have received a prescription for methadone (1.5% vs. 0.3%) [all  $p<0.01$ ]. In multivariable logistic regression, all factors except stroke remained independently associated with CSA. The strongest predictors of CSA (compared to OSA) were methadone prescription (adjusted odds ratio=4.9, 95% CI [2.3-10.6]) and myocardial infarction (1.9, [1.3-2.8]). In contrast, the prevalence of CSA and OSA were similar across races.

**Conclusion:** CSA was identified in 2% of patients undergoing polysomnography in everyday clinical practice and independently associated with a variety of clinical characteristics. Recognition of characteristics associated with CSA can lead to more targeted screening and treatment in a broader population beyond just heart failure patients.

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## 0703

### DEVELOPMENT OF THE OBSTRUCTIVE SLEEP APNEA QUESTIONNAIRE FOR USE IN CLINICAL PRACTICE

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**Introduction:** An American Academy of Sleep Medicine (AASM) task force identified a need for a valid, reliable, patient-reported outcome measure (PROM) to monitor obstructive sleep apnea (OSA) in adults in clinical practice. Ideally, the PROM should be easy and quick to complete (<5 minutes), available electronically, and accepted by clinicians treating OSA. Development of the Obstructive Sleep Apnea Questionnaire (OSA-Q) was undertaken to meet this need and was guided by the 2009 Food and Drug Administration (FDA) Guidance for Industry on developing PROMs.

**Methods:** Development of the OSA-Q included interviews with patients with OSA (n=14) to identify important concepts to them, conceptual model and draft questionnaire formulation, and cognitive interviews (n=14) to assess content validity and guide revisions to wording, item comprehension and redundancies, recall period, and response options. Usability of the electronic version of the OSA-Q was then assessed in patients with OSA. Finally, acceptability and utility of the OSA-Q in clinical practice was evaluated by surveying clinicians in ten geographically-dispersed US sleep clinics.

**Results:** Patient interviews were used to construct a conceptual model for the draft OSA-Q which served as a basis for generating 44 items about daytime/night-time symptoms and OSA impacts. Cognitive interviews identified poorly worded, ambiguous, and redundant items to inform revisions, resulting in a revised draft OSA-Q (3 domains, 28 items). Subsequently, clinicians (n=13) administered the draft OSA-Q to five patients each, obtained patients'