Podcast of the *Journal of Clinical Sleep Medicine*

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Welcome to the regular podcast of the *Journal of Clinical Sleep Medicine*. I am Dr. Stuart Quan, editor of the *Journal*. These podcasts are a regular feature of each issue of the *Journal* and can be downloaded at the *Journal*'s website. Each podcast features summaries of important articles published in the current issue of the *Journal*, as well as occasional interviews with authors of these papers.

The first paper to be discussed in this podcast is entitled, "A Brief Survey of Patients' First Impression after CPAP Titration Predicts CPAP Adherence: A Pilot Study," by Dr. J.S. Balachandaran and colleagues from the Sleep Disorders Center, Section of Pulmonary & Critical Care, Department of Medicine, Departments of Psychiatry and Health Studies, and the Biostatistics Laboratory, University of Chicago, Chicago, IL. CPAP is the mainstay treatment for the treatment of obstructive sleep apnea. When used, it is highly effective. Unfortunately, compliance is only 50%-70% in most studies. Therefore, predicting whether a patient will be compliant would be an important advantage so that interventions to improve compliance could be planned, if necessary. In this study, a CPAP perception questionnaire was administered to 403 CPAP-naive adults, who underwent an in-laboratory CPAP titration study and who had CPAP adherence data available for the first 30 days of therapy. Results were retrospectively analyzed to determine whether or not there was any association between responses on the CPAP perception questionnaire and CPAP adherence. The mean age of the patients was 52 ± 14 years, 53% were women and 54% were African American. The mean body-mass index of the population was 36.3 kg/m². Fifty-eight percent of the patients had an apnea-hypopnea index of greater than 30 events per hour and thus were classified as severe. A split-night polysomnogram was performed on 41% of the patients. However, there was no difference in the mean adherence between those who had undergone a split-night study versus those who had a full-night study in the laboratory. The CPAP perception questionnaire had six questions. However, only four correlated with mean 30-day CPAP adherence. These questions related to difficulty tolerating CPAP, discomfort with CPAP pressure, likelihood of wearing CPAP and perceived health benefit. Consequently, only these four questions were used in constructing a CPAP perception score. Patients could respond to each question on a scale from one to ten. The responses for each question were summed and thus the highest score that could be obtained was 40. A higher score indicated more difficulty with CPAP on the night of the study. Three factors were ultimately correlated with worse CPAP adherence: a higher CPAP perception score,

African American race and ordering of the sleep study by a non-sleep specialist. These results have several important implications. First, patients' perceptions after using CPAP in the laboratory have an important predictive value as to their future CPAP adherence. One could imagine that if a patient were given a simple questionnaire that suggested that his ultimate CPAP adherence would be poor, interventions might be designed to see if CPAP adherence could be improved. Second, the finding that a non-sleep specialist ordering a polysomnogram predicted worse adherence indicates that there is some value in having a sleep consultation for a patient suspected of sleep apnea before undergoing diagnostic testing. This finding confirms previous results by Parthasarathy and colleagues several years ago published in the *Journal* in which the value of having a sleep medicine specialist evaluate a patient was also demonstrated. Finally, the observation that African American race negatively correlated with CPAP adherence demonstrates that there may be significant cultural barriers to the use of CPAP. In an accompanying editorial by Drs. Billings and Kapur from the University of Washington in Seattle, WA, the editorialists indicate that if this questionnaire can be further validated, it would be an important tool in clinical use for trying to predict CPAP adherence and also to assist in planning for interventions to improve adherence.

The next paper to be discussed in this podcast is entitled, "Step Care for Insomnia: An Evaluation and Implementation in Routine Practice," by Dr. Nora Vincent and Ms. Kate Walsh from the Department of Clinical Psychology, University of Manitoba, Winnipeg, Manitoba, Canada. Insomnia is the most prevalent sleep disorder and studies have shown that behavioral treatments for insomnia are highly efficacious and have durability, especially in comparison to pharmacologic treatments. Unfortunately, qualified behavioral sleep medicine specialists are few and thus it is a challenge for the sleep community to provide adequate behavioral treatments for insomnia given the relatively small number of behavioral sleep medicine providers. In this study, a step-care pathway was employed in a sample of 50 patients with chronic insomnia. The patients completed daily sleep diaries, the Insomnia Severity Index, the Multi-Dimensional Fatigue Inventory and the Dysfunctional Beliefs & Attitudes About Sleep Scale. Afterwards, data were collected regarding whether the patient went on to receive more extensive services, such as individual consultations and group therapy. There were four levels to the step-care model used in the study. The initial level was an online program which was found at returntosleep.com and consisted of education, stimulus con-

trol instructions, relaxation training, sleep restriction, cognitive therapy and sleep hygiene education, as well as mindfulness meditation instructions. The second level was a single session with a staff psychologist or psychological associate in the clinic where progress was reviewed regarding the patient's participation in the online program. The third level was a manualized six-week group treatment program and finally the fourth level was individually tailored psychotherapy sessions conducted by a clinical psychologist. The results showed that 65% of the participants did not move beyond step one. Only 22%, or 11 participants, moved onto step two and only three participants, or 6%, eventually had individual psychotherapy. Older individuals, those with worse sleep quality and being unemployed, predicted use of more intensive sleep services. These data indicate that providing a stepped or graduated approach for behavioral sleep medicine services may be a method of trying to use limited resources for a large number of patients with respect to the treatment of insomnia.

The third paper to be discussed in this podcast is entitled, "Nocturia Compounds Wakefulness in Older Individuals with Insomnia," by Dr. Jamie Zeitzer and colleagues from the Department of Psychiatry, Stanford University, Palo Alto, CA, the Mental Illness Research, Education and Clinical Center at the VA Palo Alto Healthcare System and the Department of Neurology, Emory University, Atlanta, GA. Older persons frequently experience insomnia symptoms. In addition, nocturia is highly prevalent among older individuals. Thus, the purpose of this study was to determine the impact of nocturia on objective measures of sleep in older individuals with insomnia. Fifty-five community-dwelling older men with a mean age of 64.3 years and 92 older women with a mean age of 62.5 years with insomnia were asked to complete two weeks of sleep logs and were recorded for one week using actigraphy. The associations between nocturia and various sleep parameters were then analyzed. The authors found that 54.2% of all reported nocturnal awakenings were associated with nocturia. In addition, greater numbers of nocturia episodes were associated with worse reported restlessness and sleep efficiency. Furthermore, nocturia was correlated with actigraphic measures of the number and length of nocturnal bouts of wakefulness and also length of episodes of wake after sleep onset. For example, individuals who went to the bathroom more than four times per night had a sleep efficiency of only 61.6%, in comparison to those who did not use the bathroom who had a self-reported efficiency of 71.4%. In addition, those who went to the bathroom more than four times per night had 90 minutes of wakefulness by actigraphy, in comparison to only 53.5 minutes of wakefulness for those who did not use the bathroom. These data indicate that nocturia is a common occurrence amongst individuals with insomnia and may potentially worsen the impact of insomnia in these individuals. It remains to be determined whether intervention to treat nocturia can result in improved sleep in older individuals with insomnia.

This concludes the regular podcast of the *Journal of Clinical Sleep Medicine*. The listener is encouraged to read the contents of the *Journal* for additional information regarding each of the articles summarized in this podcast, as well as other papers published in this issue of the *Journal*.