

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 highlighted in this podcast is entitled, "The Effectiveness of Light/Dark Exposure to Treat Insomnia in Female Nurses Undertaking Shift Work during the Evening/Night Shift," by Li-Bi Huang and colleagues from the Department of Nursing, Department of Psychiatry, the Sleep Center, and the College of Medicine, Chang Gung University, Linkou Taiwan. Insomnia is a common sleep problem in the general population. It affects, on a chronic basis, approximately 10% of the populace. Shift work is a circadian-rhythm disorder, which is frequently manifested by insomnia. In this study, the investigators tested the hypothesis that bright light exposure during the first half of an evening or night shift, combined with reduction in light exposure in the morning afterwards, would improve insomnia in nurses who were working rotating shifts. Forty-six nurses with Insomnia Index Severity Scores greater than 14 were randomized to an experimental group in which they were exposed to bright light between 7,000-10,000 lux for 30 minutes during the initial part of their night work shift. Then, after their shift, they were instructed to wear sunglasses when they went into the bright outdoors. Control subjects were not exposed to bright light but were allowed to wear sunglasses after work. This treatment continued for at least 10 days out of the ensuing two weeks. After treatment, the nurses who were exposed to bright light during their work shift had a significant improvement in their insomnia severity score and their hospital anxiety-depression scale. The authors conclude that bright light exposure, with morning light attenuation, is effective in improving insomnia, anxiety and depression severity in nurses working rotating shift who also have clinical insomnia.

In an accompanying editorial, Drs. Bjorn Bjorvatn and Siri Waage from the Norwegian Competence Center for Sleep Disorders, Haukeland University Hospital, Department of Global Public Health and Primary Care, University of Bergen, Norway comment that the findings of the study by Huang and co-workers were somewhat stronger than that previously observed in a similar study done in petroleum workers. They hypothesize that perhaps the subjects by Huang, et al., had clinical insomnia. Nevertheless, they indicate that the major "take home message" from study by Huang, et al., is that bright-light

therapy of approximately 30 minutes duration appears to be a relatively easy way to improve insomnia in clinical practice in shift workers. Such improvement may result in higher productivity, reduction in errors or accidents and reduced sickness and absences in the workers.

The next paper to be highlighted in this podcast is entitled, "Obstructive Sleep Apnea in Patients with End-Stage Lung Disease," by Ayal Romen and colleagues from the Division of Pulmonary & Critical Care Medicine, Department of Medicine, University of Maryland, Baltimore, MD. This study examined the prevalence and correlates of obstructive sleep apnea in patients with end-stage lung disease. Data from 60 patients with end-stage lung disease who were referred for lung transplantation were examined. The authors found that 67% of these individuals had a respiratory-disturbance index greater than five, 21% had a respiratory-disturbance between 15-30 and 21% had a respiratory-disturbance index greater than 30. In addition, a periodic-limb movement index greater than 15 per hour was noted in 21.7%. Interestingly, the severity of sleep apnea was positively correlated with the diffusion capacity. However, the lowest oxygen saturation was negatively correlated with the severity of obstructive sleep apnea. The authors also note that excessive daytime sleepiness was not correlated with the finding of obstructive sleep apnea. Of course, this study was limited by its small size and retrospective nature. However, the authors suggest that diagnosis and treatment of obstructive sleep apnea in end-stage lung disease patients may have benefits in improving quality of life, better peri-operative management after lung transplantation and possibly, but not proven, improved course of the underlying disease.

The final article to be summarized in this podcast is entitled, "Middle-of-the-Night Hypnotic Use in a Large National Health Plan," by Thomas Roth and colleagues from the Sleep Disorders and Research Center, Henry Ford Health System, Detroit, MI, Institute for Social Research, University of Michigan, Ann Arbor, MI, Department of Healthcare Policy, Harvard University, Boston, MA, and EPI-Q Incorporated, Oak Brook, IL, and Healthcare, Inc., Bloomington, DE. As noted previously, insomnia is a common problem among the general population. As a consequence, hypnotics are frequently prescribed for these individuals. Almost all hypnotics approved by the FDA have been approved for the indication of sleep onset insomnia. However, sleep maintenance or middle-of-the-night awakenings are a common problem among insomniacs and hypnotics, despite the potential for residual sedation in the morning, are sometimes used for this purpose. Despite their use, there is little

data regarding the prevalence and correlates of middle-of-the-night hypnotic medications. In this study, members of a large U.S. commercial health plan were asked to undergo a telephone survey regarding their hypnotic use. The sample was restricted to fully insured members who were enrolled in the health plan for at least 12 months. The health plan restricted the number of telephone contacts allowed for each health plan member and this resulted in a relatively low participation rate. Nevertheless, there were 1,927 health plan members who participated in the study between the ages of 18 and 64 who received prescription hypnotics within 12 months of the study. 20.2% of these participants used hypnotics for middle-of-the-night awakenings. Of these users, 2.1% used them exclusively for this purpose. Importantly, only 14% of those individuals who used middle-of-the-night hypnotics did so under the advice of

their physicians. 52.6% of those were seen by sleep medicine specialists and 42.6% by psychiatrists. The remainder were seen by other specialties. The authors note that one-fifth of all individuals who took prescription hypnotics used them for middle-of-the-night awakenings but only a minority of those did so under the advice of their physicians. The authors suggest that because residual sedation and cognitive issues may be present if hypnotics are used in the middle of the night, prescribing physicians should question their patients about unsupervised, middle-of-the-night dosing.

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*.