Utilization of Health Care Services in Patients with Severe Obstructive Sleep Apnea

Meir H. Kryger, Les Roos, Ken Delaive, Randy Walld and Julie Horrocks
Sleep Disorders Center, St. Boniface General Hospital and Department of Community Health Sciences, University of Manitoba, Winnipeg, Manitoba, Canada
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Summary

Interested in the impact of sleep apnea on the health care system, the authors compared use of medical resources by 97 obese obstructive sleep apnea or OSA patients with a matched group of controls from the general population of Manitoba province, which maintains a detailed database of all medical services performed on its residents.

The patients had OSA proven by polysomnography and obesity defined by a body mass index or BMI greater than 35. The authors examined health care utilization of patients and controls over a 2-year period ending 2 years prior to presentation for sleep apnea evaluation. The 97 patients 71 males and 26 females, averaged 47 years of age, with a Standard Deviation or SD of 10.4, BMI of 43 (SD=7.5), apnea index of 46 (SD=35), and Epworth Scale score of 14 (SD=5.4).

Significantly more of the patients (36%) than the controls (20%) had a hospital admission during the study period. Among those hospitalized, the patients had more admissions than controls (1.9 vs. 1.3 admissions per patient) and many more nights in the hospital (7.2 vs. 4.7 nights per patient). The 97 OSA patients cost $29,000 (Canadian) per year more than the controls for hospital stays, and $80,500 more per year for all medical services. The patients cost about twice as much as the controls in outpatient physician services. Physician costs for patients increased over three years at a rate almost four times that of the controls. The diagnostic categories for which patient claims exceeded controls spanned a wide range, from respiratory diseases to endocrine, circulatory, digestive, psychiatric, and even skin diseases!

In other words, two years before being diagnosed with sleep apnea, the OSA patients were already consuming substantially more medical resources than a matched group from the general population.

Comments

One limitation of this study is that the authors did not match their patients and controls on obesity, whereas all of their patients were “obese” by BMIs (though only 31% had been diagnosed “obese” by their doctors) or on frequency of hypertension, a known complication of OSA. Therefore, some of the excess costs of the patients could be attributed to obesity or hypertension, both of which can be viewed as “complications” of OSA (though obesity may be seen as both cause and effect), rather than more directly to the OSA itself. Future studies will attempt to match groups on these factors.

The important point here is very simple: OSA patients were using more medical services than control subjects of the same age before they were diagnosed and treated for OSA, presumably because even two years prior to diagnosis, these patients suffered from symptoms of their chronic (as yet unrecognized and untreated) disease. Since OSA is now a condition with a treatment (CPAP) widely accepted as effective in the vast majority of cases, it offers an opportunity for intervention that should reduce costs--and should certainly cost much less than the higher charges for medical care they were generating all along. With respect to the co-morbid conditions of hypertension and obesity, remember that the treatment for hypertension is already
fairly well standardized, whereas the gist of research on obesity is that, by itself, it is in the long run incurable.

The main finding of this study is useful to cite when arguing for more governmental investment in sleep apnea research or information services, and maybe also when arguing with an insurance company that is reluctant to pay for "expensive" sleep studies and CPAP machines. Basically, they should cut their costs in the long run by treating something which has at least proven quite treatable, with many expensive complications when left untreated.