

Investigate Sleep Profiles of Patients With Diabetes

Question: How are sleep apnea and other sleep disturbances related to diabetes?

Answer: Sleep disorders are common in adults with type 2 diabetes.¹ One study found that one-third of adults with type 2 diabetes had sleep apnea, which included 20% of the women in the study and almost 50% of the men.²

We Americans sleep an average of 90 minutes less per night than our grandparents did, and the trend in diminished sleep parallels the growing obesity epidemic. Some suggest that decreased sleep time affects our food choices and the amounts of food we consume. In turn, increasing obesity and age make sleep disturbances such as sleep apnea more common and severe, especially in individuals with type 2 diabetes.^{3,4}

Sleep deprivation from any cause leads to increases in blood glucose (especially postprandial glucose), blood pressure, triglycerides, visceral fat, and inflammatory cytokines, as well as a decrease in HDL cholesterol and worsening of insulin resistance.^{4,5} Treating sleep deprivation rapidly reverses these metabolic abnormalities.⁶ In individuals with type 2 diabetes and obstructive sleep apnea, treatment with continuous positive airway pressure reduced glycosylated hemoglobin (A1C) by >1% and postprandial glucose by 75 mg/dl.⁷

The reasons for these negative consequences of sleep deprivation are complex, but appear to include increased sympathetic nervous system activity and increased adrenal cortisol and catecholamine output. These occur in nondiabetic individuals as well.

The diagnosis of sleep disturbance should be considered in any adult with excessive daytime drowsiness that is not otherwise explained. There are many causes of sleep disturbance, including voluntary restriction, insomnia, restless leg syn-

drome, sleep apnea, jet lag, and shift work. Practitioners usually can diagnose sleep deprivation by taking a patient's history and that of the bed partner. Loud snoring should lead to suspicion of sleep apnea.

Improving sleep quality may turn out to be as important as improving diet and fitness in individuals with diabetes and in managing the care of individuals who are obese or insulin resistant. All of the available evidence suggests that we should inquire about sleep in our patients and recognize that most sleep disturbances can be treated. ■



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