

**SLEEP MEDICINE PEARLS****A busy veteran with chronic insomnia disorder**Swapan Dholakia, MD<sup>1,2</sup>; Carissa Balderas, PhD<sup>1,2</sup>; Barry Fields, MD, MSEd<sup>1,2</sup><sup>1</sup>Atlanta VA Medical Center, Decatur, Georgia; <sup>2</sup>Emory University School of Medicine, Atlanta, Georgia

A 38-year-old veteran presented with difficulty initiating and maintaining sleep. His symptoms started 20 years ago when he was in the military and had progressively worsened. His bedtime was 9:00–10:00 PM and it took 90 minutes to initiate sleep. If unable to fall asleep, he would lay in bed with his “mind racing.” He woke up two times during the night and it took 60 minutes to reinitiate sleep. He woke up around 7:00 AM, without an alarm. Daytime symptoms included difficulty concentrating, irritability and excessive fatigue. Insomnia Severity Index was 22/28. He had tried several hypnotic agents, but these had not helped. The veteran was diagnosed with chronic

insomnia disorder and the sleep psychologist recommended 6–8 weekly sessions of cognitive behavioral therapy for insomnia (CBT-I). Unfortunately, he lived 2 hours away from the sleep center and had a busy, irregular work schedule. He would not be able to come to the clinic for multiple treatment sessions. Online CBT-I was considered but he preferred that therapy be delivered by the psychologist.

**QUESTION: What strategy would best deliver CBT-I treatment to this veteran?**

**ANSWER: Clinical video telehealth****DISCUSSION**

Since the veteran was not able to come to the sleep center in person, both clinical video telehealth (CVT; real-time audiovisual care) and web-based CBT-I were considered. There are two CVT domains: center to center (C2C) and center to home (C2H). C2C telemedicine requires a patient travel to a local clinic (or “center”) to participate in an interactive session with a provider at another health care center. While convenient for some patients, C2C CVT requires an appointment at both the patient’s local center (“originating site”) and at the provider’s center (“distant site”). C2H CVT allows a patient to use their home or another, nonclinical location as their originating site. There is no appointment required at a local center, easing scheduling constraints (particularly important for our patient) and avoiding potential access delays. However, C2H CVT places more onus on the patient than C2C CVT to navigate the technology needed to participate in the visit; there is no on-site technical support.

C2H and C2C telemedicine requirements are similar, but C2H comes with its own challenges.<sup>1</sup> Both originating (patient) and distant (provider) sites must have webcams and associated microphones enabling real time audiovisual communication. This equipment may reside on patients’ desktop computers or mobile devices. Although the American Academy of Sleep Medicine requires a minimum connection speed of 384 kbps and a minimum screen resolution of 640 × 480 pixels for C2C visits, C2H originating site cameras may or may not meet these specifications; audiovisual quality may vary.<sup>2</sup> Additionally, patients’ privacy and security should be protected as much through C2H visits as through C2C visits. Software utilized should be encrypted and password protected to assure patients and their providers an appropriate virtual environment for clinical encounters.

Web-based CBT-I was also considered in our patient, and it is another important method to address shortages in CBT-I providers. A multiweek, online sleep management program which includes different components of CBT-I is utilized<sup>3</sup> and has been shown to be effective in improving insomnia symptoms.<sup>4</sup> The program may be fully automated or may involve some adjunctive support from the therapist. Patients benefit from this modality because, like CVT, the patient need not travel to see a therapist. Additionally, the online program is available to patients any time, further enhancing patient access and conforming to irregular work/sleep schedules. However, potential drawbacks include its inability to tailor treatment to patient’s specific needs and lack of a “human touch” that has concerned some patients when offered telemedicine-based care.<sup>5</sup>

After reviewing the available technologies with the patient and eliciting his preferences, a licensed clinical psychologist with training in telemedicine provided C2H, CVT-based CBT-I to the patient. This strategy consisted of 7 weekly therapy sessions

originating from his home and lasting 45–60 minutes each. All major components of CBT-I were utilized, including psychoeducation regarding sleep, sleep restriction, stimulus control, relaxation training, and cognitive restructuring. At the end of 7 sessions, the patient’s self-reported total sleep time increased from an average of 6 hours and 30 minutes to 7 hours and 48 minutes per night. ISI decreased from 22/28 to 11/28, and he reported satisfaction with his sleep quantity and quality.

**SLEEP MEDICINE PEARLS**

1. Clinical video telehealth (CVT) is a useful paradigm for patients unable to travel to the clinic due to distance, health or time constraints.
2. The two CVT modalities are center to center (C2C) and center to home (C2H).
3. CBT-I can be delivered effectively utilizing C2H telemedicine technology.
4. Online or digital CBT-I is a useful option for patients who do not have access to CBT-I-trained clinicians.

**CITATION**

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**DISCLOSURE STATEMENT**

All authors have seen and approved the manuscript. Work for this study was performed at the Atlanta VA Medical Center. The authors report no conflicts of interest.