https://doi.org/10.5664/jcsm.8704

JCSM | Journal of Clinical Sleep Medicine

COMMENTARY

Paying attention to the sleeping surface and bedclothes

Commentary on Ekholm B, Spulber S, Adler M. A randomized controlled study of weighted chain blankets for insomnia in psychiatric disorders. *J Clin Sleep Med*. 2020;16(9):1567–1577. doi:10.5664/jcsm.8636

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Insomnia disorder is the most prevalent sleep disorder and treatment guidelines usually resolve to 2 treatment options: (1) cognitive behavior therapy for insomnia (CBT-I) as first choice and (2) hypnotics as a default second choice.[1] Patients are more accepting of a nonpharmacological approach when given a choice,[2] but CBT-I may be difficult to arrange as qualified therapists are often hard to find. And so we arrive at Ekholm et al's "A randomized controlled study of weighted chained blankets for insomnia in psychiatric disorder."[3] This paper describes 120 psychiatric outpatients with insomnia in Stockholm who underwent a randomized controlled trial (RCT) of 1:1 assignment to sleep under weighted blankets with 8-kg weights sewn into the hems, versus sleeping under blankets with 1.5-kg weights. After completing participation in the RCT, most participants accepted the option to flow into an open single-arm continuation period with the 8-kg weighted blankets. The external validity of the study was improved by focusing on insomnia among psychiatric patients (sleeping pills, for example, are most often prescribed for insomnia in the setting of psychiatric disorder)[4] and by allowing stable concurrent psychotropic regimens.

The patients assigned to sleep under 8-kg weighted blankets had clinically meaningful lower Insomnia Severity Index scores across the 4 weeks of the RCT, and the improvement extended into the open-label continuation for both of the original treatment groups. Secondary outcomes included greater improvement in actigraphic sleep and improvement in daytime reports of greater reductions in fatigue, anxiety, and depression symptoms in those receiving 8-kg blankets during the RCT.

This report is among the very few reports on the effects of weighted blankets on sleep, and hence bears replication before it appears in an insomnia treatment guideline. Still, the anti-insomnia effect size (1.9) is impressive and the "side effects" were low (1 patient discontinued due to claustrophobia). The scientific readership of this journal will be left wondering what plausible mechanism(s) might explain the observed therapeutic effect. The authors offer that weighted blankets apply a "deep pressure" akin to acupressure or massage, which, in turn, "increases the sense of the body and its limits and provides confidence" as well as possible beneficial effects on the autonomic nervous system or oxytocin release.[3] All of these offered mechanisms should be viewed as hypotheticals needing empiric study, but the basic premise is as old as psychoanalysis. Although many psychoanalytic theories have been discredited, the notion of the "holding environment" makes intuitive sense. The "holding environment" theory states that touch, especially human touch, is a basic need, symbolically represented in the psychotherapeutic relationship, and provides calming and comfort.[5] In more concrete form, the comforting aspects of the holding environments are produced by physical holding, such as weighted blankets. The psychoanalytic explanation in no way contradicts the physiologic explanations.

The subtext of Ekholm et al's paper is the need for all sleep clinicians to reorient themselves to the importance of the sleeping environment. CBT-I is usually supplemented by sleep hygiene. While there is some overlap between sleep hygiene rules and the behavioral rules of CBT-I (ie, a fixed rising time each morning), much of sleep hygiene is distinct from the concerns of CBT-I.[6] Sleep hygiene covers a lot of territory, including recommendations regarding beverage alcohol, caffeine, tobacco, exercise, noise control, and temperature control in the bedroom, and avoiding clock watching during the night.

However, neither CBT-I nor sleep hygiene typically covers the physical aspects of the sleeping surface and its constituents. I am not aware of any data regarding whether sleep clinicians routinely ask their patients about the quality of their bed and bedclothes, but I am betting we usually omit this line of questioning. Still, the qualities of the sleeping surface affect sleep. A mattress that provides poor relief from pressure points may be a source of sleep complaints that could be improved by substituting a mattress with better pressure relief.[7,8] It is also possible to manipulate the dye used in bedsheets to reduce sleep complaints,[9] and even the choice of fiber in sleepwear can affect reported sleep quality.[10]

More work on the topic of weighted blankets would be welcome, especially to address a few methodologic questions left unaddressed by Ekholm et al. For example, what happens to a sleeping partner when the person with insomnia wants to use weighted blankets? Does the sleeping partner stay, or leave, the bed? Also, how do we understand that depressive and anxiety symptoms (after excluding the sleep items) improved to a greater extent with the 8-kg weighted blankets? Standard hypnotic medications, while helpful for sleep in RCTs of depressed individuals, typically do not change nonsleep

depression items.[11] While we wait for answers to these questions, Ekholm et al's paper encourages sleep clinicians to broaden their view on what can be done to optimize sleep.

CITATION

McCall WV. Paying attention to the sleeping surface and bedclothes. *J Clin Sleep Med*. 2020;16(9):1427–1428.

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SUBMISSION & CORRESPONDENCE INFORMATION

Submitted for publication July 16, 2020
Submitted in final revised form July 16, 2020
Accepted for publication July 16, 2020
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DISCLOSURE STATEMENT

The author has seen and approved the manuscript. Work for this commentary was performed at the Medical College of Georgia at Augusta University. Dr. McCall receives royalties from Wolters Kluwer and research support from Merck, MECTA, Vistagen, PCORI, and Otsuka. He has been a scientific advisor for Sage, Jazz, and Janssen.