

4-1-2008

Why We Can't Sleep

Gayle Greene
Scripps College

Recommended Citation

Greene, Gayle, "Why We Can't Sleep: It's Not Just in Our Heads, but in Our Hormones," *Ms. Magazine* (Spring 2008)

This Article is brought to you for free and open access by the Scripps Faculty Scholarship at Scholarship @ Claremont. It has been accepted for inclusion in Scripps Faculty Publications and Research by an authorized administrator of Scholarship @ Claremont. For more information, please contact scholarship@cuc.claremont.edu.

Why We Can't Sleep

It's not just in our heads, but in our hormones

By Gayle Greene

Can't sleep? Well you're not alone, especially among women.

A 2007 poll by the National Sleep Foundation found that 67 percent of women frequently experience sleep problems and 29 percent use some type of sleep aid at least a few nights a week. Other surveys have consistently found that nearly half again as many women as men complain of insomnia.

Yet 75 percent of sleep research has been done on men, and until recently the researchers have been primarily men. The major texts for sleep studies have had, until recently, little to say about women's sleep.

As with other conditions that affect more women than men and are not well understood, there's a tendency to assume that the problem is psychological. When 501 physicians were interviewed about how they treated insomnia, they revealed that they asked an average of just two and a half questions, mostly about psychological problems. And since doctors believe it's all in the head, there's little impetus to research insomnia. In 2005, the National Institutes of Health spent less than \$20 million on the condition, although it affects as many as a third of the U.S. adult population. Most of those funds were directed toward treating and managing the problem, while less than \$4 million went to investigations of neurophysiological and neuroendocrinal mechanisms—the kind of basic research that might lead to an understanding of cause.

There's no question that stress can lead to insomnia, and that women are under stress. Juggling the demands of work, marriage and motherhood, they often don't have time to sleep, and when they do they're so revved up that they've forgotten how. Women are also conditioned to internalize conflicts rather than act them out. And they're statistically more likely to be poor, to be trapped in conditions over which they have little control, and to be subject to abuse and violence. But to overestimate the effects of social and psychological factors is to miss the crucial connections between female physiology and sleep.

Before puberty, girls do not sleep worse than boys. At adolescence, though, girls become approximately two and a half times more likely than boys to have insomnia, according to a 2006 study published in the journal *Pediatrics*. Adolescence is when young women have to deal with confusing cultural messages about being "girls," but it's also that time when surges of estrogen and progesterone make sleep more vulnerable. Estrogen increases the secretion of cortisol, promoting a stress response that's both stronger and longer in women than in men. Women have been found to have longer-lasting cortisol responses during the phases of the menstrual cycle when estrogen and progesterone levels are highest.

As we're exposed to monthly dips and surges in estrogen and progesterone throughout our reproductive years, the stress system stays primed for hyperreactivity, which gives us greater vulnerability to stress-related disorders. Men have higher rates of alcoholism, addiction, autism and schizophrenia, but women are more prone to panic disorder, generalized anxiety disorder, posttraumatic stress disorder and depression. Such differences arise during puberty, continue through the childbearing years and decline after menopause to a rate same age.

Menopause is another trouble spot for sleep; at this point, women's sleep complaints more than double. The physiological explanations given for this are hot flashes and apnea—a breathing disorder that becomes more frequent in women after menopause, partly because weight gain makes the breathing passages smaller and partly because progesterone, which has a protective effect on breathing, declines. But the explanation usually given for menopausal insomnia is midlife depression about aging, empty nests, divorce or loss of parents.

**Women's depression rates
actually go down after menopause
even as insomnia rates go up—which should unseat
the knee-jerk equation of insomnia with depression.**

And yet, contrary to popular conception, midlife may be a less stressful time for women than their 20s. Women's depression rates actually go down after menopause, even as insomnia rates go up—which should unseat the knee-

jerk equation of insomnia with depression. Many of us are on a more even psychological keel in our 50s and 60s than we were when we were younger—except that we can't sleep.

Menopause is a biological as well as psychosocial event, a time when our bodies are adjusting to plummeting levels of estrogen and progesterone. Researchers suspect it may be the fluctuations rather than the depletion of hormones that create the problems, because the other trouble spots for women's sleep are also times when hormonal levels fluctuate—not only at menarche and just before menstruation, when estrogen and progesterone levels drop, but just after a woman gives birth, when estrogen levels plummet from the high point they were at during pregnancy.

One reason hormonal fluctuations disrupt sleep is that they raise temperature. Body temperature tends to decline as sleep comes on, so anything that keeps it elevated—an electric blanket, a hot room, work or vigorous exercise too close to bedtime— may inhibit sleep. Anything that facilitates a drop in temperature, like a cool room or a hot bath, may bring on sleep. (A hot bath seems an odd way to cool down, but if it's taken an hour and a half before bed, the subsequent rapid dropping of body temperature may trick the brain into thinking it's time for sleep.)

Hot flashes, of course, raise body temperature in a big way. And women with PMS have higher body temperatures throughout the night, as do women who take birth control pills. All of these factors may interfere with sleep.

Why, then, if estrogen makes the stress system more reactive, do estrogen supplements seem to make sleep better, as anecdotal evidence and some researchers suggest? Findings are equivocal: Some studies suggest they help, others that they do not. When the Women's Health Initiative study came out with the bad news about hormone replacement therapy (HRT) in 2002, linking it to increases in breast cancer, stroke, heart disease and dementia, many women immediately stopped taking estrogen—and many of them experienced insomnia. Anecdotal reports suggest that many of those who stopped hormonal supplements started up again at a lower dose because, among other discomforts, they couldn't sleep.

One reason estrogen might help sleep is because of the way it interacts with certain neurotransmitter systems. It enhances the action of GABA (gamma-aminobutyric acid), the major inhibitory system of the brain, the system that sleeping pills augment to damp us down. It enhances the action of serotonin by decreasing the neurotransmitter's uptake and making it more available, the way selective serotonin reuptake inhibitor antidepressants such as Prozac or Zoloft do. Or, it may be that hormone supplements simply keep hormone levels more constant, thereby eliminating the fluctuations that cause trouble. Then again, estrogen itself lowers body temperature, and that may be why it helps. Not enough is known.

Progesterone is also complicated. It raises temperature, yet has such a strong sedative effect that some researchers suggest women on HRT take their progesterone at bedtime. Anecdotal evidence suggests that it has a positive effect on sleep, but not in a simple way. (I have found that taking it at night disrupts my sleep, but that not taking it at all wrecks my sleep entirely.) More needs to be known.

But it's always easier to psychologize the problem—tell us we're stressed or depressed and pass the buck back to us—than to do the hard work of finding out what's really going on. Since insomnia disproportionately affects women, its neglect by researchers is our neglect.

*GAYLE GREENE is a professor of literature and women's studies at Scripps College in Claremont, Calif. She is the author of *Insomniac* (University of California Press, 2008)*