Sleep Duration, Melatonin, and Breast Cancer: Compliment and Compliment

To the Editor:

In an interesting study, Verkasalo et al. (1) found some support for lower breast cancer risks in long sleepers in Finland. The authors appropriately embedded their discussion in the existing literature, insofar as they point to prior studies into possible links between long sleep and mortality. Indeed, the recent review by Youngstedt and Kripke (2) evinced that sleeping beyond 8 hours could be associated with increased mortality, and this should be diligently considered when zeroing in on possible implications of long sleep on public health. Adding further to this evidence of complicated study results is a recent study by Patel et al. (3).

A few remarks to what the authors of the present study “hypothesized,” to this novel study approach and to existing literature may be in order, though. In their abstract, they wrote that “we hypothesized that there is an inverse association between sleep duration and breast cancer risk, possibly due to greater overall melatonin production in longer sleepers.” May I kindly point to a 2002 publication in which I suggested in detail to employ “individuals’ cumulative time at sleep . . . estimated . . . by using structured interviews with participants” in epidemiologic studies into possible links between light, melatonin, and cancer (4)? In the context of carcinogenesis and future study options, I wrote that “information on average hours of sleep during relevant periods of time” should be sought and that “cumulative time at sleep would be expected to correlate positively with individuals’ cumulative melatonin levels.” Possibilities of using but also caveats of interpreting a “measure of cumulative time spent in sleep on the one hand and disease incidence on the other” were carefully discussed.

Clearly, the epidemiologic study by Verkasalo et al. is a good start into research of the issues concerned (i.e., sleep duration, light-at-night, melatonin, and breast cancer incidence). Equally clearly, the hypothesis statement in the abstract could, and possibly should, be complemented by a reference to the first proposal of the study idea, which was discussed at an international symposium (5) and published in Neuroendocrinology Letters 3 years ago (4).

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In Response:

The hypothesis that sleep duration would be associated with breast cancer risk rests primarily on the work of Wehr et al. on sleep duration and melatonin production (for instance, ref. 1), which we cited in our paper (2). In 1996, Stevens and Davis (3) discussed sleep length and melatonin production in the context of breast cancer, although the specific prediction that sleep duration would be associated with risk was not stated. Erren (4) and Stevens (5) did, however, both state the sleep duration prediction explicitly. It was an oversight not to cite these two papers.

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References
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