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Using a Continuously Temperature-Regulated Mattress Cover Reduces Nighttime Hot Flash Frequency and Improves Physical Comfort Among Menopausal Women

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Introduction: By 2030, 1.2 billion women (14% of the global population) will be menopausal. 80% of menopausal women have hot flashes, negatively impacting sleep quality. Women waking from nighttime hot flashes often use inconvenient methods to cool themselves, such as removing covers or applying wet towels. The Eight Sleep Pod, a continuously temperature-regulated mattress cover, may reduce hot flash frequency by keeping women cooler throughout the night. The purpose of this study was to explore how a continuously temperature-regulated mattress cover impacts nighttime hot flashes and physical comfort.

Methods: Forty-one menopausal women (mean±SD: 50.6±6.73 yo) slept on the Pod for 10-14 nights (1/23/25-2/25/25), with temperatures OFF for the first 5-7 nights and temperatures ON for the last 5-7 nights. Each night, women recorded when hot flashes occurred. After Pod OFF and ON study phases, women completed the Menopausal Rating Scale (MRS), an assessment of menopausal symptom severity and physical comfort, where a lower score is better. Sensors on the Pod collected objective sleep data, which were analyzed alongside the subjective survey data.

Results: Sleeping with Pod ON reduced nighttime hot flashes by 54% (mean±SD change: -1.13±0.90 hot flashes; $P<0.001$), whereby 65% of testers experienced ≥50% fewer hot flashes per night. These reductions in hot flash frequency occurred regardless of women's initial (Pod OFF) hot flash frequency ($P=0.22$). From Pod OFF to ON, average MRS score decreased from 15.0 to 13.0 (mean±SD % change: -5.9±40.0%; $P=0.02$), and average MRS somatosensory subscore (i.e. physical discomfort) decreased from 6.11 to 4.92 (mean±SD % change: -14.1±33.5%; $P=0.008$). Despite reduced hot flashes with Pod ON vs. OFF, there were no statistically significant differences in total sleep time (7.55 vs. 7.47 h, respectively) or wake after sleep onset (42.0 vs. 40.3 min, respectively; both $P>0.05$).

Conclusion: A temperature-regulated mattress cover, like the Pod, can be an effective solution in helping reduce menopausal nighttime hot flash frequency and therefore improve physical comfort during sleep.