

Exercise and attitude may be thermostat for hot flashes

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(Medical Xpress) -- Attitude may play an important role in how exercise affects menopausal women, according to Penn State researchers, who identified two types of women -- one experiences more hot flashes after physical activity, while the other experiences fewer.

"The most consistent factor that seemed to differentiate the two groups was perceived control over [hot flashes](#)," said Steriani Elavsky, assistant professor of kinesiology. "These [women](#) have ways of dealing with (hot flashes) and they believe they can control or cope with them in an effective way on a daily basis."

Women who experienced fewer hot flashes the day after participating in vigorous to [moderate physical activity](#) were more likely to be part of the group that felt they had control over their hot flashes. Women who had more hot flashes following exercise were likely to be those who felt they had very few ways of coping with their hot flashes, Elavsky and her colleagues report in a recent issue of *Maturitas*.

Elavsky suggested that [cognitive behavioral therapy](#) may help some women feel they have more control over their bodies and reactions to hot flashes.

The participants with fewer hot flashes the day after vigorous exercising were also less likely to experience [anxiety and depression](#). However, women who had fewer hot flashes the day after only light or moderate [physical activity](#) had higher levels of [pessimism](#) and depression than

others.

"The bottom line for research is that people need to look at individual differences," said Elavsky. "It's not enough anymore to do a study and look at overall impact of an [exercise program](#) on symptoms. It's very clear that we need to look at the different responses that women might have, and try to understand these individual differences more."

Elavsky and her colleagues followed 24 [menopausal women](#) for the length of one [menstrual cycle](#), or for 30 days if they were no longer menstruating. Each woman used a personal digital assistant to record hot flashes and wore an accelerometer at the hip to track physical activity. The women in the study regularly had hot flashes before the start of the study, experiencing from five to 20 a day.

"The real-time reporting of symptoms and the objective measurement is a strength of the study," said Elavsky. "There aren't any studies out there that use both of these approaches. ... To ask a woman to report a symptom when she's experiencing it is the most valid assessment."

At the beginning of the study, the participants completed evaluations that looked at their depressive symptoms, chronic stress, perceived control over hot flashes, and personality. They had a physical exam where researchers measured levels of reproductive hormones and body composition. Each woman served as her own control, therefore the data was analyzed for each separately.

If a woman experienced a hot flash during the observation period, she entered the event on the PDA, along with the severity and length of the event, where she was, if she had recently consumed a trigger, such as coffee, and included other situational information. At four random times throughout the day, the PDA prompted the woman to assess and record daily stressors and mood. At the end of the day, each completed a fifth

assessment and looked retrospectively at how her day went and how well she coped with her hot flashes that day.

"I was surprised by how large the individual differences were," said Elavsky. "I was also surprised that the association was present in terms of statistically significant association only in a handful of women -- and among those, there were two whose physical activity led to more hot flashes the next day and one that had the opposite. Maybe the reason why we don't see the associations in larger studies is because they cancel each other out."

Also working on this research were Peter C. M. Molenaar, professor of human development; Carol H. Gold, research associate for the Center of Healthy Aging; Nancy I. Williams, professor of kinesiology and physiology; and Keith R. Aronson, associate director of the Children, Youth and Families Consortium, all at Penn State.

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