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Effects of energy enhancer patches on cortisol production, peripheral circulation, and psychological measures: a pilot study

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Abstract

Context: LifeWave Energy Enhancer (LEE) patches (LifeWave Corp, San Diego, CA, USA) on skin produce some changes that are consistent with increased energy production, but little is known about their effects on cortisol concentrations or the peripheral circulation.

Objective: The study intended to assess the effects of LEE patches on salivary cortisol, peripheral circulation, and psychological measures on healthy adults.

Methods: A double-blind, placebo-controlled, randomized pilot study was performed.

Setting/location: Measurements were made in the laboratory at Mind-Body-Science (Tucson, AZ, USA). Participants collected some of the saliva samples at work or home.

Participants: To obtain pilot data, 20 healthy individuals with no chronic conditions were recruited-5 males and 15 females-aged 30-69 y.

Intervention: Participants completed baseline psychological questionnaires and provided saliva samples for hormonal analysis. The next day, fingertip microvascular perfusion was measured, LEE or placebo patches were applied to participants' wrists, and perfusion scans were repeated, first immediately after and then 10 min after application of the patch. Saliva samples were collected, and questionnaires were completed. Participants returned at noon and 4:00 PM for further scans, and at the end of that time, the patches were removed. The protocol was repeated

the following day using new patches.

Outcome measures: The research team analyzed the saliva samples for levels of cortisol and measured the percentage changes in cutaneous microvascular perfusion. The participants completed the energy visual analog scales (eVASs) and the Marlowe-Crowne Social Desirability survey.

Results: After the first patch application, the active group showed significantly higher cortisol concentrations than the placebo group, both at noon- 2.39 ± 0.17 ng/mL vs 2.15 ± 0.27 (P = .0360), respectively-and at 4:00 PM- 2.02 ± 0.24 vs 1.67 ± 0.31 (P = .0155), respectively. No consistent changes occurred in perfusion. The eVAS score decreased significantly compared with baseline in the placebo group but not in the active group.

Conclusion: Cortisol concentrations and eVAS scores showed significant differences between groups, which is consistent with the patches increasing energy production, warranting further testing.

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