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SCIENCE SPOTLIGHT

# Psychological Distress Is both a Cause and Consequence of HSV-2 Episodes

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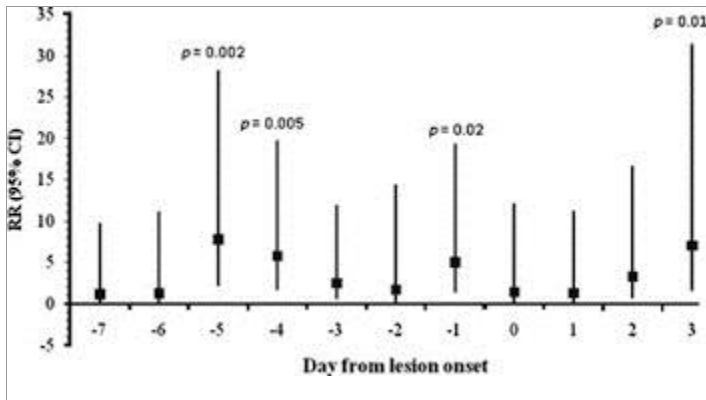
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Previous research has shown that psychological distress can be a co-factor in reactivating latent herpes simplex virus (HSV) infection, but subjective self-reports may also be influenced by individual personality traits and stress. To dissect out the specific roles that daily distress and personality may play in HSV reactivation, clinical psychologist Dr. Eric Strachan, senior author Dr. Anna Wald, and colleagues in the Vaccine and Infectious Disease Division conducted a prospective study as part of a randomized, placebo-controlled, crossover clinical trial of acyclovir as a treatment for HSV-2 infection. The study included measures of daily viral reactivation in the genital tract of women both on and off antiviral therapy. Neuroticism and extraversion were measured using a 24-question personality questionnaire. Psychological distress was measured daily by single-item visual analog scales of stress, anxiety, and depression. In this method, participants drew a line along a scale of “none” or “most imaginable” for each types of distress. This method had strong face validity and was easy for the women to complete daily, and has been used in prior published HSV research.

The study results showed that psychological distress was temporally associated with the onset of HSV-2 lesions. Daily distress ratings predict lesion onset, as approximately five days before the episode, high levels of stress, anxiety, and depression were reported. High levels of anxiety were present three days after the onset of lesions, leading to a possibility that increased anxiety is related to the continuation of symptoms. No effect was found for viral shedding, which is very important in regard to disease transmission risk. Lesions may occur when the virus is present and systemic or local immunity is impaired, as HSV-2 infection is very dynamic.

Strachan and colleagues found that psychological distress is both a cause and consequence of HSV-2 lesions. No effects were found for viral shedding, and differences in personality traits did not contribute to distress on either disease outcome. The temporal analysis showed that daily monitoring is required to best unravel the relationship between lesion outbreak and changes in distress levels. Due to these findings, the group recommends research on interventions to reduce stress in otherwise healthy individuals.

[Strachan E, Saracino M, Selke S, Magaret A, Buchwald D, Wald A. 2011.](#) The effects of daily distress and personality on genital HSV shedding and lesions in a randomized, double-blind, placebo-controlled, crossover trial of acyclovir in HSV-2 seropositive women. *Brain, Behavior, and Immunity.* 25; 1475-1481.



Rate ratio for frequency of genital lesion onset comparing women with high and low anxiety levels by days from lesion onset.