

Simple spit and blood tests might detect burnout before it happens

February 22 2011



(PhysOrg.com) -- Your blood and the level of a hormone in your spit could reveal if you're on the point of burnout, according to research undertaken by Dr. Sonia Lupien and Robert-Paul Juster of the Centre for Studies on Human Stress of Louis-H. Lafontaine Hospital and the University of Montreal.

In addition to professional and personal suffering, burnout puts distressed workers at further risk of physical and psychological problems if ignored. This is significant, as burnout, [clinical depression](#), or [anxiety](#) related to the workplace affects at least 10% of North Americans and Europeans, according to estimates prepared by the International Labor Organization.

"We hypothesized that healthy workers with chronic stress and with mild burnout symptoms would have worse physiological dysregulations and lower cortisol levels – a profile consistent with burnout," Juster explained. Cortisol is a stress hormone involved in our bodies stress response and naturally as part of our body's daily rhythm. Cortisol levels are often high in people suffering from depression, while it tends to be low in cases of burnout. Too much cortisol can be as bad as too little when it comes to both mental and physical health.

Chronic stress and misbalanced cortisol levels can exert a kind of domino effect on connected biological systems. The term "allostatic load" represents the physiological problems or 'wear and tear' that ensue in these different systems related to risks for diabetes, cardiovascular disease, and immune problems. By looking at various factors such as insulin, sugar, cholesterol, blood pressure, and inflammation, an allostatic load index can be constructed and then used to detect problems before they occur. "The strength of the allostatic load model is its flexible inclusion of numerous biological systems that get strained by chronic stress. Complementary use of saliva samples and validated questionnaires allows us to go beyond measuring susceptibilities to, say, metabolic syndromes or heart problems, but also into the realm of mental health," Juster said.

The results of this first pilot study were obtained by testing thirty middle-aged participants. In addition to undergoing routine blood measures that assessed allostatic load, participants were instructed to collect saliva at home and during a laboratory paradigm. They also filled out questionnaires related to their current stress levels as well as symptoms of depression and burnout.

This research is part of a greater effort to develop personalized medicine in this field. Personalized medicine targets the customization of treatment according to the needs of the individual. "In an effort to

advance person-centered approaches in prevention and treatment strategies, we have to investigate the biopsychosocial signatures of specific diseases," Lupien said. "For conditions like burnout where we have no consensus on diagnostic criteria and where there is overlap with symptoms of depression, it is essential to use multiple methods of analysis. One potential signature of burnout appears to be fatigued production of the stress hormone cortisol and dysregulations of the physiological systems that interact with this stress hormone."

Critically, people with [burnout](#) are often treated with anti-depressant medications that lower cortisol levels. If cortisol is already lower than it should be, this course of treatment could represent a therapeutic mistake. "The use of an allostatic load index gives researchers and clinicians a window to see how [chronic stress](#) is straining the person. In the future, we need studies that track people over time to determine whether this profile of low cortisol and physiological dysregulations is indeed burnout's autograph. If so, science will be one step closer to helping distressed workers before they burn out," Juster noted.

More information: The research was published in *Psychoneuroendocrinology*.

Provided by University of Montreal

Citation: Simple spit and blood tests might detect burnout before it happens (2011, February 22) retrieved 23 April 2024 from <https://medicalxpress.com/news/2011-02-simple-blood-burnout.html>

<p>This document is subject to copyright. Apart from any fair dealing for the purpose of private study or research, no part may be reproduced without the written permission. The content is provided for information purposes only.</p>
--