Stress and Health: A Mind-Body Approach

Deborah Norris, Ph.D.
Science for Health & Energy, Inc.
202-369-4111

REFERENCES

A study done by Maes et al. examined twenty-seven university students a few weeks before and after a difficult oral exam. They found that academic stress significantly increased the production of pro-inflammatory cytokines. **Maes, M., Christophe, A., Bosnians, E., Lin, A., Neels, H. (2000). Psychosocial stress and immune function.** ***Biological Psychiatry*****. 910-20.**

This study measured lymphocyte populations in thirty-three healthy young men before and immediately after their performance on a frustrating laboratory task. Results showed that after the task, the men had a significant reduction in T-cells. **Haddy, R., Clover, R. (2001). The Biological Processes in Physiological Stress.** ***Families, Systems and Health*****. Vol. 19, No. 3**

In another study, twenty-six bereaved spouses were matched with 26 non-bereaved controls. Blood samples were taken two weeks after bereavement and then again six weeks later. The results yielded that lymphocyte response was significantly depressed on the second blood sample in the bereaved spouses when compared to the control group (**Haddy, R., Clover, R. (2001). The Biological Processes in Physiological Stress.** ***Families, Systems and Health*****. Vol. 19, No. 3**

Individuals who experience a persistently negative affect (which is correlated with high stress and anxiety indices) are more prone to disability due to mental and physical disorders and have higher rates of depression, suicide, and general mortality. Conversely, the ability to mediate stress and positive affect are linked to lower rates of the aforementioned concerns. **Young, Simon N. (2007). How to increase serotonin in the human brain without drugs.** ***Journal Psychiatry and Neuroscience*****, 32, 394-399.**

In well-regulated, high concentrations, serotonin, which is found naturally in the brain, gut and blood platelets, entered cancer cells of people with Burkitt's lymphoma, and caused the cells to self-destruct. **Adamantios Serafeim**, **Gillian Grafton**, **Anita Chamba**, **Christopher D. Gregory**, **Randy D. Blakely**, **Norman G. Bowery**, **Nicholas M. Barnes**, **and John Gordon Blood, 1 April 2002, Vol. 99, No. 7, pp. 2545-2553.**

A study conducted in 1991 found that numerous physiological changes occur in the endocrine system in response to Buddhist meditation. The most important changes were reduced levels of cortisol and epinephrine. These are stress hormones, and the findings of this study indicated that stress hormones were significantly reduced in subjects who practiced meditation. Furthermore, the study found that the reduction of these stress-related chemicals persisted even after meditation. **Sudsuang R, Chentanez V & Veluvan K. Effect of Buddhist Meditation on Serum Cortisol and Total Protein Levels, Blood Pressure, Pulse Rate, Lung Volume & Reaction Time. Physiology Behavior 50(3):543-8, Sep 1991.**

Practicing meditation regularly and over a long period of time develops a psychophysiological response that decreases endocrine activity and thus decreases sensitivity to stress. **Shin, Jooyoumg J. "The Physiology of Meditation." Electronic Journals of Martial Arts. DC Taekwondo. <http://ejmas.com/pt/ptart_shin_0400.htm>.**

Serotonin regulates osteoclast differentiation through its transporter. Battaglino R, Fu J, Späte U, Ersoy U, Joe M, Sedaghat L, Stashenko P. Bone. 2001 Nov;29(5):477-86.

Neurotransmitter action in osteoblasts: expression of a functional system for serotonin receptor activation and reuptake. Bliziotes MM, Eshleman AJ, Zhang XW, Wiren KM. J Bone Miner Res. 2004 Sep;19(9):1420-31.

And visa versa. Exercise also increases serotonin production! Blumenthal et al. Duke University (2001).

Happiness reduced the plasma levels of SP, VIP and NGF in patients with allergic rhinitis. Results indicate that happiness may reduce allergen-induced wheal responses in association with a decrease in SP, VIP and NGF but not NT-3. This finding may be useful in elucidating the neuroimmunology and treatment of allergic rhinitis. Oto-Rhino-Laryngologia Nova, Vol. 12, No. 6, 2002.

Corticosteroids and pro-inflammatory cytokines have immunosuppressive properties affecting cellular mediated immunity such as: natural killer cells, T-lymphocytes and macrophages. Reiche, E., Morimoto, H., Nunes, S. (2006). Stress and depression-induced immune dysfunction: Implications for the development and progression of cancer. *Department of Internal Medicine, Health Sciences Center*

Stress and Health: A Mind-Body Approach

Deborah Norris, Ph.D.
Science for Health & Energy, Inc.
202-369-4111

Quotes:

- I've developed a new philosophy... I only dread one day at a time. ~*Charlie Brown*
- ""The reason why worry kills more people than work is that more people worry than work." ~ *Robert Frost*
- He who fears he shall suffer, already suffers what he fears. ~*Montaigne Essays, 1588*
- The greatest mistake you can make in life is to be continually fearing you will make one. ~*Elbert Hubbard*
- Heavy thoughts bring on physical maladies; when the soul is oppressed so is the body. ~*Martin Luther*
- We experience moments absolutely free from worry. These brief respites are called panic. ~*Cullen Hightower*
- How much pain they have cost us, the evils which have never happened. ~*Thomas Jefferson*
- Worry is a misuse of imagination. ~ *Dan Zadra*
- I am an old man and have known a great many troubles, but most of them never happened. ~*Mark Twain*
- Health will improve almost at once when worrying ends. ~ *Neale Donald Walsch*
- You can never worry your way to enlightenment. ~*Ed Northstrum*
- Wanna fly, you got to give up the shit that weights you down. ~*Toni Morrison*
- For peace of mind, resign as general manager of the universe. ~ *Unknown*
- Every evening I turn my worries over to God. He's going to be up all night anyway. ~*Mary C. Crowley*