

Special Interest Articles:

- Osteoporosis drugs
- B₆ and MSG
- Rheumatoid arthritis
- Testosterone
- Chemotherapy
- Name that food
- Stress and comfort foods

Name that food:
Party Snack Mix

Stress Makes Colds and the Flu Worse

According to research appearing in *Psychosomatic Medicine* (March 1999;61:175-180), stress may make the symptoms of a cold or the flu worse. The study involved 55 subjects who were injected with Influenza A virus. Prior to being injected, the subjects filled out a questionnaire about their stress levels. They were then quarantined and observed. Researchers measured mucus production, checked the severity of their symptoms and measured interleukin-6 levels (interleukin-6 is a protein produced by the body involved with immune response). The subjects who reported the

highest levels of stress had more severe symptoms, more mucus production and higher interleukin-6 levels.

Also, research published in the journal, *Epidemiology* (May 2001;11: 345-349) showed a survey of more than 1,100 staff and students at a Spanish university that focused on various types of stress. Individuals who believed they were under stress were more likely to catch a cold than those who did not. An even higher instance of colds was found in pessimists—people with a negative outlook on life.

Stress and Back Pain

In a study published in the *American Journal of Public Health* (October 2001; 91:1671-1678), researchers interviewed 6,000 subjects about a number of physical and psychological issues. They interviewed the subjects twice, once when the group was 23 years old and again when they were 33. About

10% of the group experienced low back pain for the first time within a year of the second interview. People who experienced psychological distress at age 23 were 2 ½ times more likely to have low back pain at age 33 than the 23 year-olds who did not.

Exercise and Depression

Symptoms dropped by 47% in the groups doing the higher amount of exercise, compared to 30% in the light exercise group.

Research published in the May, 2006 issue of *Family Practice News* studied 80 adults with mild to moderate depression. The subjects were placed randomly into one of five groups. Two of the groups did very low levels of exercise; one for three days per week and another for five days per week (7 kcal/kg/wk). Two other groups exercised aerobically at a higher level (17.5 kcal/kg/wk)—over twice the level of the first two groups. One of these groups exercised three times each week, and the other exercised five times each week. The control group did stretching, but no aerobic activity.

The study lasted 12 weeks. None of the subjects were taking antidepressant medication. Their depression was rated on the Hamilton Rating Scale for Depression (HAM-D). Symptoms dropped by 47% in the groups doing the higher amount of exercise, compared to 30% in the light exercise group. In the control group, depression scores dropped by 29% at

the end of the 12 weeks (although the controls had more subjects drop out of the study than the other four groups combined).

Subjects were considered to have a positive response to treatment if their HAM-D scores reduced by 50% or more. This occurred in 46% of the groups doing the higher levels of exercise, and only 26% of those doing light exercise experienced this level of improvement. Only 15% of the controls had their scores reduced by 50% or more.

Subjects were considered to be in remission if their HAM-D scores were seven or less. In the groups doing the higher level of exercise, 42% of them were considered to be in remission, compared to 26% in the low level exercise groups and 11% of the controls. The authors found the rate of remission in the high-level exercise group to be comparable to other forms of treatment for depression.

Stress Reduction Helps Cardiac Patients

A five-year study published in the January 15, 2002 issue of the *American Journal of Cardiology* shows that heart patients may benefit from stress management. One group of 94 subjects were men with heart disease who went through training that taught them ways to control negative thoughts and emotions and other stress reducing techniques including

muscle relaxation. During the course of the study, the men receiving the training in stress-reduction were less likely to need a heart procedure (like bypass or angioplasty); they also had lower doctors' costs and lower hospitalization costs over the five-year period of the study.

Stress and Disease

Stress is both a cause of disease and an aggravating factor. Reducing stress can help prevent disease and to help recover from an existing disease. An article appearing in *Postgraduate Medicine* (January, 1991;89(1):159-164) enumerated the kinds of health problems caused by stress. According to the article, stress is a cause of cardiovascular disease and may even be related to sudden death. It can cause platelet aggregation and thrombus formation. Stress can make the airways in asthmatics hyperreactive. Stress makes the immune system less effective, making the prospect of getting a cold or the flu more likely. Stress has been linked to headaches, inflammatory bowel conditions and endocrine problems.

Stress actually decreases the activity of natural killer cells (a type of white blood cell), according to research appearing in *Stress Medicine* (1991;7:53-60). The study looked at the effect daily stress had on the natural killer cells in 92 kibbutz residents. Another study looked at the effect on traumatic stress. Research appearing in *Psychosomatic Medicine* (1997;59:467-476) looked at a total of 159 workers at the crash site and 41 controls were examined within 2 months of the crash and again 6 months after the crash. Subjects were divided according to whether or not they had contact with human

remains. Workers exposed to body parts at the actual crash site, and those who were exposed to remains without expecting to be, exhibited more symptoms of stress than workers who saw bodies and body parts at the morgue and those who did not see human remains. The traumatized group had higher natural killer cell activity at the start of the study and at two months. At the end of six months the levels were comparable to the group that was not traumatized.

Stress can make you more susceptible to the common cold. A study appearing in the *New England Journal of Medicine* (August 29, 1991;325(9):606-612) looked at 394 subjects who were given nasal drops containing one of five respiratory viruses, and another 26 subjects who were given saline nasal drops. The amount of respiratory infections was directly proportional to the amount of psychological stress the individual was under.

Stress can even affect fertility. A study published in the *Medical Tribune* (December 1, 1994;16) studied 150 couples and found that the stress of a death in the family had a negative effect on the quality of sperm. Stress caused by a divorce or separation also had a negative effect on sperm. Interestingly, stress from work had no effect on sperm.

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Stress and Nutrition

Perhaps one of the most serious implications of stress may be in conjunction with a magnesium deficiency. Stress increases the need for magnesium. An article appearing in the *Journal of the American College of Nutrition* (1994;13(5):429-446) states that when stress causes the release of catecholamines and corticosteroids, it can increase a magnesium deficiency. Stress and magnesium deficiency can lead to vasoconstriction and platelet aggregation, which increases the risk of damage to the heart, cardiovascular disease, arrhythmias and even sudden cardiac death. There is a very strong connection between low magnesium and sudden cardiac death. Depleted magnesium levels due to stress can play a role in eclampsia in pregnant women. It can also be an aggravating factor in asthma.

Omega-3 fatty acids may be useful in mitigating stress. A prospective cohort study involving nearly 8,000 subjects was published in the *European Journal of Nutrition* (2007; 46(6): 337-46). The authors concluded that there is taking omega-3 fatty acids may be of benefit to a variety of mental disorders including anxiety, depression and stress. Other research appearing in the journal *Hypertension* (November 1, 2004;44(5):732-738) found that DHA supplementation reduced vasoconstriction due to psychological stressors.

Studies have shown that vitamin C may increase tolerance to stress. An animal study appearing in the *Medical Tribune* (September 23, 1999;40(16):4

found that rats given vitamin C, when stressed, produced less corticosterone (a stress hormone in rats) than rats not given vitamin C. The supplemented rats also had higher immune function, larger thymus glands and had their adrenal glands became less enlarged than rats not receiving vitamin C. Older research supported the idea that vitamin C (as sodium ascorbate) can be beneficial to allergy patients—and the mechanism may be through supporting the adrenal glands. A review article appearing in the *American Journal of Digestive Disorders* (September 1947;302-306) states that between one and two grams of sodium ascorbate per day is beneficial to allergy patients. The sodium ascorbate plays a role in adrenal function. One study involving 50 subjects with asthma, whole adrenal gland extract in conjunction with a high salt intake resulted in improvement of symptoms in 42 of the subjects. Sodium ascorbate both supports the adrenal gland and addresses the sodium/potassium imbalance caused by stress.

Research appearing in the *Journal of International Sports Nutrition* (2008; 5: 11) shows that phosphatidylserine may reduce stress hormone levels. The study was a small, double-blind crossover design study that found that supplementation with phosphatidylserine supplementation for 10 days reduced exercise induced stress and reduced mean peak cortisol concentrations from moderately intensive exercise.

Stress During Pregnancy may Lead to Birth Defects

According to research appearing in the September, 2000 issue of *The Lancet*, women who are under stress during the first trimester of their pregnancy are more likely to give birth to a child with birth defects than women who are not under stress. The researchers reviewed the medical records of women and looked for sources of extreme stress—like severe illness of a partner or child or death of a loved one. The stress occurred during the pregnancy or up to 16 months before the pregnancy. The researchers identified 3,560 women who had such stress and compared them to over 20,000 pregnancies

where the women did not have extreme stress.

There were 42 women in the stress group who gave birth to a child with birth defects; this constitutes 1.18% of those pregnancies resulting in a birth defect. In the control group, only 0.65% of the pregnancies resulted in a birth defect. This represents an 80% increase in risk. If the death of an older child occurred during the pregnancy, it created a five-fold increase. If that death was unexpected, it created an eight-fold increase in the likelihood of producing a birth defect.

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Name That “Food”

Diet and lifestyle play a large role in health and disease. Many of the things that pass for food in our society act to undermine our health.

Dietary indiscretion can cause health problems. Look at the information taken from the label of a commonly consumed “food” and see if you can guess what it is:

ENRICHED FLOUR (WHEAT FLOUR, NIACIN, IRON, THIAMIN MONONITRATE, RIBOFLAVIN, FOLIC ACID), DEGERMED YELLOW CORN MEAL, WHOLE WHEAT, VEGETABLE OIL (SOYBEAN, RICE BRAN AND/OR CANOLA), SUGAR, PARTIALLY HYDROGENATED SOYBEAN OIL, SALT.

CONTAINS 2% OR LESS OF: ENRICHED FLOUR BLEACHED, YEAST, CORN SYRUP, MALTODEXTRIN, RYE FLOUR, BAKING SODA, BARLEY MALT EXTRACT, MALT SYRUP, SPICES, COLOR ADDED, DISTILLED MONOGLYCERIDES, YELLOW CORN FLOUR, AUTOLYZED YEAST, TRISODIUM PHOSPHATE, CALCIUM CARBONATE, ONION, GARLIC, HYDROLYZED SOY PROTEIN, NATURAL FLAVOR, DISODIUM GUANYLATE, DISODIUM INOSINATE, MALT, PEANUT FLOUR, SESAME SEED, ALMOND FLOUR, NONFAT MILK, FRESHNESS PRESEVED BY BHT.

Answer on page 1

A wise man should consider that health is the greatest of human blessings, and learn how by his own thought to derive benefit from his illnesses.—
Hippocrates

Reduce Stress, Improve Mood and Increase Brain Power with Exercise

Research appearing in the November 1999 issue of the *Annals of Behavioral Medicine* demonstrates the value exercise has for reducing stress. The subjects of the study were 135 college students. The study found that those who exercised regularly coped with stress better and had 37% fewer physical symptoms than those who did not exercise regularly. Sedentary students had 21% more anxiety than the students who exercised regularly.

Exercise can also improve the mood of depressed individuals, according to research appearing in the *Journal of Sports Medicine and Physical Fitness* (December 2001;41:539-545). Eighty volunteers took a mood test prior to an aerobics class, 52 of the subjects were determined to be in a depressed

mood. The questionnaire was given again, after the class. Participating in the class reduced fatigue, tension and feelings of anger.

Exercise even improves brain power according to a report presented at the annual meeting of the Society Of Psychophysiological Research in Montreal, Canada October 18, 2001. The study looked at the thinking ability of 20 subjects between the ages of 18 and 24 after running for a half-hour. After the exercise the subjects were connected to an electroencephalogram (EEG), a device designed to measure brain waves. They were given computer tests before and after the exercise. The brain wave measurements showed that the decision making process was faster after the exercise.

