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Better Health News2

Special Interest Articles: Colds, Flu and the Immune System

Name that food:
A children's cereral

Exercise Helps Prevent Colds

According to research appearing in the October, 2006 issue of the *American Journal of Medicine* (2006;119;937-942), post-menopausal women who exercised regularly for at least one year had a lower incidence of colds than those who did not. The subjects were 115 postmenopausal women who were sedentary and either obese or overweight. They were divided into two groups. For 12 months one group did 45 minutes of moderate exercise, five days per week. The control group did 45 minutes of stretching.

The subjects filled out quarterly questionnaires about upper respiratory infections. The group that exercised had a lesser risk for catching a cold, which was more pronounced late in the study. In the final three months, the risk for colds in the control group was more than three times that for the group performing the exercise.

Other research, appearing in *Medicine & Science in Sports & Exercise* (2002; 34:1242-1248) evaluated 500 subjects over the course of a year to find how many colds they had and how often they exercised moderately (defined as activity more strenuous than a walk). The most active subjects had 25% fewer colds each year compared to the least active subjects.

Good Bowel Bacteria May Protect From the Flu

In an animal study performed by scientists in Japan, the normal bowel bacteria, Lactobacillus casei seemed to have a protective effect against the flu. In the study, published in *Clinical and Diagnostic Laboratory Immunology* (May 2001; 8:593-597), mice were inoculated with flu virus. One group of mice was given Lactobacillus casei in a nasal spray three days prior to the inoculation. The group treated with the bacteria had a 90% lower viral load than mice who were not treated. Also, 69% of the mice given the bacteria survived the flu, compared to 15% of the mice who were not given the bacteria. This may give us some insight as to why repeated bouts of antibiotics seem to create chronic illness.

Bacterial Infections Affect Allergies

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Research published in the March, 2003 issue of the journal, *Infection and Immunity* shows a connection between bacterial infection and subsequent allergies. Mice who were infected with the bacteria, Mycoplasma pneumoniae had a decreased reaction to allergens. If the mice were sensitive to the allergens prior to the infection, they had a stronger response.

Mice were injected with either the bacterium, M. pneumonia or a saline solution. Both groups of mice were then made to be allergic to ovalbumin (an egg protein). Two weeks after the injections, the mice were exposed to the allergen again. The mice that were inoculated with the bacterium had milder allergic responses than did the mice that were not infected. If, however, the mice were inoculated with the bacterium after the allergy had been established, they had stronger allergic responses than the control group.

The research shows that bacterial infection can affect allergic response. Dr. Martin, Vice Chair of the Department of Medicine at National Jewish Medical and Research Center said, "Timing is everything, however, our results suggest that M. pneumoniae, or a related pathogen, could help prevent asthma and other allergic diseases, but only if the infection occurs before a person is sensitized to an allergen."

Stress Makes Colds and 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.

Colds May not be all Bad

According to the *British Medical Journal,* (February 17, 2001; 322: 390-395) it is a good thing when a baby gets a cold. Colds and minor infections seem to help the immune system to develop and help to prevent asthma and allergies latter in life. The finding supports a theory that an immune system that has been geared up to fight infection is less likely to overreact to innocuous substances.

While repeated mild infections seemed to help prevent asthma and allergies, recurrent serious infections were another matter. Serious infections of the lower respiratory tract, like pneumonia or the flu, seemed to increase asthma risk. The researchers point out that the children who have a tendency to get asthma may be more prone to these more serious infections.

Other research has found that children living on farms or with pets are less likely to get asthma or allergies. All of this research supports the idea that environments that are too sterile may not allow the immune systems to develop properly and causing them to overreact to harmless substances.

This is a message parents need to hear, because many react strongly to minor infections. According to research published in the journal, *Pediatrics* (2003;111:231-236), 1,600,000 people visited the emergency room in 1988 for treatment of the common cold. Colds are caused by viruses, and will get better on their own without medical care. In spite of that, a survey of nearly 200 families with at least one child between the ages of six months to five years, nearly 25% of parents say that they would bring their child to the emergency room for a cold. Although 93% of parents understood that viruses caused colds, 66% of parents also believed that colds were caused by bacteria. 53% believed that antibiotics were needed to treat colds. 60% stated that they would take the child to a doctor's office. In fact, there are 25,000,000 visits to doctors' offices each year for treatment of the common cold.

This practice affects our health care costs, and it contributes to the overutilization of antibiotics, which can cause the antibiotic resistant, or super bug strains to develop. According to researchers, once a person has been given antibiotics to treat a cold, it is more likely that they will return to the doctor with a cold and expect antibiotics. This is expensive and it is helping to create antibiotic resistant strains of bacteria.

There is a growing concern about the overuse of antibiotics for the treatment of upper respiratory infections. These infections are usually viral in nature and antibiotics are useless for treating them. According to research appearing in the April, 2000 issue of the journal *Pediatrics,* children given antibiotics for respiratory infections have an overall increase in the number of return visits to the doctor.

According to the *Journal of the American Medical Association* (June 19, 2002;287:3096-3102, 3103-3109, 3133-3135), fewer doctors are prescribing antibiotics to children and teens than in 1990. This is an attempt to halt the rise in antibiotic resistant infections. Overuse of antibiotics in the past has created antibiotic resistant strains of bacteria.

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Repeated Colds? It may be the Sinuses

About 34 million Americans suffer with sinus problems. Often a cold will plug up the ostea (ostea are small canals that connect the sinuses to the nasal passages; they are about the thickness of a pencil lead), preventing the sinuses from draining properly. The moist, warm, mucus-packed sinus becomes a breeding ground for bacteria. To the patient, it seems to be a cold that just doesn't go away. Chronic sinusitis produces pressure between the eyes, on the sides of the nose, or in the front of the forehead. There is a stuffy feeling, and the victim frequently has headaches. He or she often has a runny nose, sore throat, and/or a cough from the constant draining of mucus.

One thing that may tip you off to the possibility that it may be a sinus problem is that there are several "colds" in a row. Commonly someone who "gets sick a lot" actually may have a sinus infection. What they may be experiencing is a single infection that never really clears up.

Another sign is a "tickle" in the back of the throat that causes a non-productive cough. The sinuses are draining, causing the irritation to the back of the throat. Frequently the patient wakes up with a sore throat.

Because of the repeat bouts of infection the patient may take antibiotics on a regular basis. This can create digestive problems or immune system problems. Repeated courses of antibiotic therapy can create dysbiosis (overgrowth of yeast or other pathologic microorganism in the intestine) and ultimately lead to other problems like headaches, fatigue, digestive problems and allergies. A study published in the journal *Pediatrics* (April 2001;107:619-625) also found that antibiotic therapy did no better than the placebo in preventing the recurrence of sinus symptoms.

Research published in *Archives of Internal Medicine* (2003;163:1832-1836.) and performed by scientists at Georgetown University Medical Center, shows a link between fatigue, unexplained pain and chronic sinusitis. More than 20% of the subjects in the study met the criteria for a diagnosis of chronic fatigue syndrome. Most of the chronic fatigue syndrome patients had sinus symptoms. Many noted a sudden onset of their illness, something they have in common with patients suffering with sinusitis.

If the symptoms start in the winter, ("Late every fall, I catch a cold") there may be mold or dust allergy involved. The scenario is something like this: During the summer, air conditioning is running and the ductwork gets moist. It becomes cooler and the air conditioning is turned off and moisture, dust and perhaps a little bit of mold settles onto the duct. When it becomes cold, the heat is turned on, blowing the dust and mold throughout the house. If a person has a dust or mold sensitivity, he or she develops the symptoms of a cold. If the sinuses become infected, this is the beginning of several "colds" that last throughout the winter.

Irrigating or cleaning the sinuses is a good strategy. Steam is often helpful. There are herbs and nutrients that are useful for boosting the immune system. Reducing stress is also valuable for helping the immune system. Avoiding refined sugar, hydrogenated oils and chemical additives is also very important. Also eat plenty of fresh fruits and vegetables, and make sure to get enough exercise. Often these general life style changes are ignored when treating the sinuses, but anything you do to enhance your general health will help your immune system and ultimately—your sinuses.

Discuss with your health provider what strategy is best to improve your immune system and get your symptoms under control. Many times patients get drug therapy for short-term relief, but in the long term their immune systems suffer.

Breakfast and the Common Cold

It is becoming increasingly clear that there is a connection between stress and susceptibility to the common cold. Lifestyle, in general, can have an effect on the immune system. Alcohol consumption, smoking and even skipping breakfast can make you more susceptible to colds and the flu, according to the Economic and Social Research Council (research released March 2002)

A research study performed at the School of Psychology at Cardiff University involved nearly 500 students. The subjects were asked to present themselves within six to 96 hours of contacting an upper respiratory infection. More of the 188 subjects who caught colds were likely to be drinkers or smokers than those who stayed healthy. Stress also seemed to increase the chance of illness.

A second study, involving 100 participants, was performed. It related illness to dietary habits. The subjects kept a diary for 10 weeks; in it they recorded any problems with memory and attention and any illness. Subjects who had more than one illness during the study were less likely to eat breakfast and more likely to drink alcohol. Those who developed more than one illness also tended to have negative, stressful events over the preceding year.

According to Professor Andrew Smith, author of the studies, the studies demonstrate the effect of upper respiratory infections on performance and mood. They also show that health habits and behavior may be related to the tendency to get colds or the flu. “Further research on the impact of minor illnesses in industry and education is now needed' says Professor Smith, “Awareness of the effects of performing whilst ill should also be increased and possible counter measures considered”

…studies demonstrate the effect of upper respiratory infections on performance and mood. They also show that health habits and behavior may be related to the tendency to get colds or the flu.

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. According to government figures, the average American consumes 10 pounds of food additives each year. Look at the information taken from the label of a commonly consumed “food” and see if you can guess what it is:

CORN MEAL, SUGAR, WHOLE OAT FLOUR, MARSHMALLOW BITS (SUGAR, MODIFIED CORN STARCH, CORN SYRUP, DEXTROSE, GELATIN, SODIUM HEXMETAPHOSPHATE, NATURAL AND ARTIFICIAL FLAVOR, RED #40, YELLOW #5, BLUE #1), HIGH FRUCTOSE CORN SYRUP, SALT, NATURAL AND ARTIFICIAL STRAWBERRY FLAVOR, WHEAT FLOUR, SODIUM ASCORBATE AND ASCORBIC ACID, RED #40, NIACINAMINDE, ZINC OXIDE, REDUCED IRON, BLUE #1, PYRIDOXINE HYDROCHLORIDE, RIBOFLAVIN, THIAMIN HYDROCHLORIDE, VITAMIN A PALMITATE, BHT, FOLIC ACID, VITAMIN B_{12}, AND VITAMIN D

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The Cost of the Common Cold

"Every patient carries her or his doctor inside"

Albert Schweitzer

According to research published in *Archives of Internal Medicine* (2003 Feb 24;163(4):487-94), viral upper respiratory infections that are not influenza (in other words, colds) cost the US economy $39.5 billion each year. A nationwide telephone survey of US households (N = 4051) was conducted between November 3, 2000, and February 12, 2001 about frequency and treatment approach to viral upper respiratory infections. A little over 70% of the respondents reported having a cold in the past year. Respondents who reported having a cold averaged 2.5 colds annually. When these rates are extrapolated to the entire US population, approximately 500 million colds occur per year.

A little over half of the cost of these upper respiratory infections, $22.5 billion, is from missed work. According to the researchers, much of the rest of the cost comes from inappropriate medical care, mainly doctors' visits and antibiotic prescriptions. Antibiotics are of no use for viral infections.

According to one of the authors, Mark Fendrick, co-director of the Consortium for Health Outcomes, Innovation, Cost Effectiveness Studies (CHOICES) at the University of Michigan in Ann Arbor, "Many Americans don't realize that the average cold lasts greater than one week…A quarter will last up to two weeks. It's not just a couple of days. And once they go to their doctor, patients often leave with a prescription for antibiotics, which are ineffective against viral infections such as colds." Fendrick and his co-authors estimate that more than $1.1 billion is spent annually on 41 million antibiotic prescriptions for colds. Most of the 197 families responding to the survey knew that viruses cause colds, however more than half believed that antibiotics were needed to treat them.