



# Natural Standard

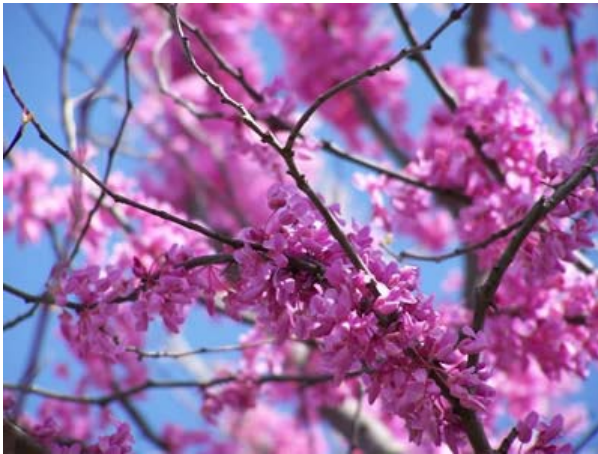
The Authority on Integrative Medicine

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Natural Standard provides high quality, evidence-based information about complementary and alternative therapies, diets, exercise and nutrition. For more information, please visit [www.naturalstandard.com](http://www.naturalstandard.com).

## Integrative Therapies for Spring Allergies



Warmer weather, blossoming trees and budding flowers, the hopeful markers of spring, are also bearers of bad news for allergy sufferers. Integrative therapies with good scientific evidence for allergies are available.

A recent review conducted by researchers from the Department of Complementary Medicine, Peninsula Medical School, University of Exeter, England, evaluated the efficacy of herbal medicines for the treatment of allergic rhinitis. The authors reported that there is encouraging evidence suggesting that butterbur may be an effective herbal treatment for seasonal allergic rhinitis. There are also promising results generated for other herbal products, particularly Aller-7 (an Indian herbal combination), *Tinospora cordifolia* (Guduchi, an herbaceous vine of the family Menispermaceae indigenous to the tropical areas of India, Myanmar and Sri Lanka), *Perilla frutescens* (Green Shiso, an ornamental plant in the Lamiaceae family) and several Chinese herbal medicines.

The plants butterbur and bromelain, probiotics and nasal irrigation therapy have been found to have positive effects on allergy symptoms.

Butterbur is a perennial shrub found throughout Europe as well as parts of Asia and North America. It is usually found in wet, marshy ground, in damp forests and adjacent to rivers or streams. The leaves of the plant are responsible for its botanical and common names. The common name is attributed to the large leaves that have been used to wrap butter during warm weather.

Butterbur has been traditionally used as an antispasmodic and analgesic (pain reliever), specifically for conditions afflicting the stomach, bile ducts and duodenum (part of the small intestine). Butterbur is believed to help strengthen digestion and improve obstructed bile flow. Butterbur has also been given for inflammation of the urinary tract and cramps. There is compelling initial evidence from human trials to suggest benefits in the prevention of migraine headache.

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Evidence in support of the use for allergic rhinitis prevention is also promising.

Comparisons of butterbur to prescription drugs, such as fexofenadine (Allegra®) and cetirizine (Zyrtec®), have reported similar efficacy. These results suggest benefits of butterbur for the prevention of allergic rhinitis. Additional study is warranted before a strong recommendation can be made.

Classified as an herb, bromelain is a sulfur-containing digestive enzyme that is extracted from the stem and the fruit of the pineapple plant (*Ananas comosus*, family Bromeliaceae). When taken with meals, bromelain assists in the digestion of proteins; when taken on an empty stomach, it acts medicinally as an anti-inflammatory agent.

Bromelain was introduced in 1957 and has been used in many clinical trials. Its use in digestion, inflammation and sinusitis has been substantiated by clinical evidence.

It is proposed that bromelain may be a useful addition to other therapies used for sinusitis (such as antibiotics) due to its ability to reduce inflammation/swelling. Studies report mixed results, although overall bromelain appears to be beneficial for reducing swelling and improving breathing. Better studies are needed before a strong recommendation can be made.

Probiotics are beneficial bacteria (sometimes referred to as "friendly germs") that help to maintain the health of the intestinal tract and aid in digestion. They also help keep potentially harmful organisms in the gut (harmful bacteria and yeasts) under control. Most probiotics come from food sources, especially cultured milk products. They can be consumed as capsules, tablets, beverages, powders, yogurts and other foods.

Probiotics work by colonizing the small intestine and crowding out disease-causing organisms, thereby restoring proper balance to the intestinal flora. They compete with harmful organisms for nutrients and may also produce substances that inhibit growth of harmful organisms in the gut.

Probiotic bacteria have been found to stimulate the body's immune system. They may also aid in several gastrointestinal illnesses such as inflammatory bowel diseases, antibiotic-related diarrhea, *Clostridium difficile* toxin-induced colitis, infectious diarrhea, hepatic encephalopathy, irritable bowel syndrome and allergies.

The use of probiotic *Enterococcus faecalis* bacteria in hypertrophic sinusitis (sinus inflammation) may reduce the frequency of relapses and the need for antibiotic therapy. Only a small variety of probiotic combinations have been studied in the treatment of allergies, mostly with children, teenagers and young adults. Studies of inhalant allergy conditions, such as allergic rhinitis (nasal inflammation and discharge), during pollen season have had mixed results. Some studies have found no benefits, while others have found benefit from adding probiotics to fermented milk.

There is also evidence that yogurt may improve or prevent the recurrence of allergic rhinitis. Studies of allergic skin reactions in infants (allergic dermatitis, atopic eczema) suggest that supplementation, including for breastfeeding mothers, may reduce frequency, symptom levels and duration.

Yoga enthusiasts have used the technique of nasal irrigation for thousands of years to clear the sinus cavity and also to clear the mind. There is growing scientific evidence to support its practice since proponents believe that it is more natural, soothing, almost harmless and cheaper than many over-the-counter medications. It is also devoid of side effects, such as drowsiness and nausea, often associated with these medications.

Nasal irrigation is used to clear the sinuses and can be performed by the patient at home or by a professional up to twice daily provided the mucous membranes are not irritated by the procedure.

The three forms of nasal irrigation therapies used in clinical trials have been saline lavage, which uses a warm liquid solution; humidified warm air lavage (hyperthermia); and large-particle nebulized aerosol therapy, which uses aerosolized saline solution. Occasionally, antibiotics are added to the solution.

Studies support the use of hypertonic saline for nasal irrigation. There is good evidence in support of nasal irrigation for allergic rhinitis and sinusitis. There is promising early evidence for using nasal irrigation in treating common colds, respiratory symptoms from occupational exposure and in post-operative care following sinus or nasal surgeries.

For more information on these therapies, please visit [Natural Standard's Foods, Herbs & Supplements](#) and [Health & Wellness](#) databases.

To comment on this story, please click [here](#) to enter the [Natural Standard](#) blog.

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1) Guo R, Pittler MH, Ernst E. Herbal medicines for the treatment of allergic rhinitis: a systematic review. *Ann Allergy Asthma Immunol.* 2007 Dec;99(6):483-95. [View Abstract](#).

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## Team Sports for Overweight Children



An after-school sports program may be an effective weight control intervention for overweight children, a new study reports.

According to the American Heart Association, about 20 percent of children are overweight.

Researchers from Stanford University, School of Medicine, Stanford, CA, explained that current clinical child obesity treatment programs require substantial resources, are able to serve limited numbers of children, are not available in all communities and have generally demonstrated only modest efficacy.

They hypothesized that an organized after-school team sports program may address neighborhood safety concerns that may keep children indoors. Additionally, the researchers suggested that playing sports, being part of a team, receiving mentoring, modeling and friendship from young adult coaches and having opportunities to demonstrate skills in front of friends and family may be fun and highly motivating for children.

The study evaluated the feasibility, acceptability and efficacy of an after-school team sports program for reducing weight gain in overweight children from low-income families.

In the study, 21 children in grades 4 and 5 with a body mass index at or above the 85th percentile were enrolled in an after-school soccer program or "active placebo" control intervention consisting of an after-school health education program (9 to the soccer intervention and 12 to the health education intervention).

The main outcome measures were: implementation, acceptability, body mass index, physical activity measured using accelerometers, reported television and other screen time, self-esteem, depressive symptoms and weight concerns.

The study found that compared with children receiving health education, children in the soccer group had significant decreases in body mass index scores at three and six months and significant increases in total daily, moderate and vigorous physical activity at three months.

The study authors concluded that an after-school team soccer program for overweight children can be a feasible, acceptable and efficacious intervention for weight control.

Integrative therapies that have been studied in the treatment of obesity with strong or good scientific evidence include ephedra, 5-HTP, the Atkins diet, DHEA and psychotherapy. It is important to note that most of these therapies have been studied in adults, not children, and

individuals should consult with a qualified healthcare professional before beginning any weight loss plan.

Ephedra contains the chemical ephedrine, which appears to cause weight loss when used in combination with caffeine, based on the available scientific evidence. However, even though this herb has been shown to help reduce weight, it is unsafe for humans for this indication. Serious reactions, including heart attack, stroke, seizure and death, have occurred with using ephedra. The U.S. Food and Drug Administration (FDA) has banned sales of ephedra dietary supplements in all states except for Utah.

5-HTP is the precursor for serotonin, the brain chemical associated with sleep, mood, movement, feeding and nervousness. 5-HTP may alter serotonin levels in the brain, which may then reduce eating behaviors and promote weight loss in obese individuals.

The Atkins Diet® is an eating style that radically departs from the U.S. Food and Drug Administration's (FDA) food pyramid. The Atkins Diet® advocates an increased consumption of fats as the primary source of energy while simultaneously restricting the intake of carbohydrates. This limitation is based on the premise that eating carbohydrates results in the excessive secretion of insulin, potentially resulting in increased fat stores. A carbohydrate-restricted diet has been shown to result in weight loss in obese and non-obese individuals. However, patients should consult with a qualified healthcare professional before beginning any new diet.

DHEA (dehydroepiandrosterone) is a hormone that is produced by the adrenal glands. Most human studies investigating the effects of DHEA on weight or fat loss support its use for this purpose.

Psychotherapy is an interactive process between a person and a qualified mental health professional. The patient explores thoughts, feelings and behaviors to help with problem solving. Several studies indicate that people who are overweight or obese may benefit from behavioral and cognitive-behavioral psychotherapy in combination with diet and exercise to lose weight. Use cautiously with serious mental illnesses or some medical conditions because some forms of psychotherapy may stir up strong emotional feelings and expressions.

Integrative therapies with fair negative evidence in the treatment of obesity include acupuncture or shiatsu and beta-glucan.

During acupuncture, finger pressure is applied to specific acupoints on the body. Preliminary evidence suggests that acupuncture may not be effective for weight loss.

Beta-glucan is a fiber that comes from the cell walls of algae, bacteria, fungi, yeast and plants. Short-term use of fermentable fiber or nonfermentable fiber supplements does not appear to promote weight loss. More study is needed to confirm these findings.

For more information on these therapies, please visit [Natural Standard's Foods, Herbs & Supplements](#) and [Health & Wellness](#) databases.

To comment on this story, please click [here](#) to enter the [Natural Standard](#) blog.

#### References:

1) Weintraub DL, Tirumalai EC, Haydel KF, et al. Team sports for overweight children: the Stanford Sports to Prevent Obesity Randomized Trial (SPORT). Arch Pediatr Adolesc Med. 2008 Mar;162(3):232-7. [View Abstract](#).

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The 2008 SPRING "Hospital Pharmacy Conference" will be held at the Hyatt Regency Jacksonville Riverfront in Jacksonville, FL, on April 21-23, 2008.

**Natural Standard** will be attending.

Up to 175 hospital Director's of Pharmacy from America's most prestigious hospitals and health systems will be present. The conference will feature hospital central pharmacy education, great networking with the hospital pharmacy executives and a "Reverse Expo." During the "Reverse Expo," the hospital pharmacy executives will "host and man" the exhibit booths while the vendors, suppliers and manufacturers will walk the trade room floor visiting each hospital and health system booth to dialogue with the hospital pharmacy executives about their products & solutions.

The conference is built around providing the optimum environment for building relationships with hospital executives.

Health Connect Partners, Inc. is a healthcare education and consulting firm focused on bringing the very best in education to the healthcare providers and their suppliers.

For more information on the conference, please visit [www.hlthconnectpartners.com](http://www.hlthconnectpartners.com).

If you would like us to post your event(s) online, please e-mail: [news@naturalstandard.com](mailto:news@naturalstandard.com).



## Hormone Therapy Health Risks

A new study evaluated the health risks and benefits of estrogen and progestin therapy and found an increased risk of fatal and nonfatal illnesses (malignancies).

Researchers from the University of North Carolina, Chapel Hill, reported that the Women's Health Initiative (WHI) trial of estrogen plus progestin was stopped early, after a mean of 5.6 years of follow-up, because the overall health risks of hormone therapy exceeded its benefits.

The study analyzed health outcomes three years (mean 2.4 years of follow-up) after the intervention was stopped.



The intervention phase was a double-blind, placebo-controlled, randomized trial of estrogen plus progestin (conjugated equine estrogens 0.625 milligrams daily plus medroxyprogesterone acetate 2.5 milligrams daily) in 16,608 women aged 50-79 years. The post-intervention phase commenced July 8, 2002 and included 15,730 women.

The primary end points were coronary heart disease and invasive breast cancer. A global index summarizing the balance of risks and benefits included the two primary end points plus stroke, pulmonary embolism, endometrial cancer, colorectal cancer, hip fracture and death due to other causes.

The study found that after the intervention, cardiovascular risk was comparable by initial randomized assignments: 1.97 percent (annualized rate) in the hormone therapy group (343 events) and 1.91 percent in the placebo group (323 events).

The researchers observed a greater risk of malignancies in the estrogen plus progestin group than in the placebo group (1.56 percent vs. 1.26 percent). More breast cancers were diagnosed in

women who had been randomly assigned to receive hormone therapy vs. placebo (0.42 percent vs. 0.33 percent) with a modest trend toward a lower hazard ratio during the follow-up after the intervention.

All-cause mortality was somewhat higher in the estrogen plus progestin group than in the placebo group (1.20 percent vs. 1.06 percent).

The global index of risks and benefits was unchanged from randomization through March 31, 2005, indicating that the risks of estrogen plus progestin therapy exceed the benefits for chronic disease prevention, reported the researchers.

The increased cardiovascular risks in the women assigned to hormone therapy during the intervention period were not observed after the intervention.

The study authors concluded that a greater risk of fatal and nonfatal malignancies occurred after the intervention in the estrogen plus progestin group and the global risk index was 12 percent higher in women randomly assigned to receive conjugated equine estrogens plus medroxyprogesterone acetate compared with placebo.

Integrative therapies with good scientific evidence in the treatment of menopause include calcium, sage and soy.

Calcium is the nutrient consistently found to be the most important for attaining peak bone mass and preventing osteoporosis. Adequate vitamin D intake is required for optimal calcium absorption. Adequate calcium and vitamin D are deemed essential for the prevention of osteoporosis in general, including postmenopausal osteoporosis. There is a link between lower dietary intake of calcium and symptoms of premenstrual syndrome. Calcium supplementation has been suggested in various clinical trials to decrease overall symptoms associated with PMS, such as depressed mood, water retention and pain.

Sage (*Salvia officinalis*) may contain compounds with mild estrogenic activity. In theory, estrogenic compounds may decrease the symptoms of menopause. Sage has been tested against menopausal symptoms with promising results.

Soy (*Glycine max*) products containing isoflavones have been studied for the reduction of menopausal symptoms such as hot flashes. The scientific evidence is mixed in this area, with several human trials suggesting a reduced number of hot flashes and other menopausal symptoms, but more recent research reporting no benefits. Overall, the scientific evidence does suggest benefits, although better quality studies are needed in this area in order to form a firm conclusion.

Integrative therapies with fair negative evidence in the treatment of menopause include boron, evening primrose oil and wild yam.

Boron is a trace mineral found in soil, water and some foods. It has been proposed that boron affects estrogen levels in post-menopausal women. However, preliminary studies have found no changes in menopausal symptoms.

Available studies do not show evening primrose (*Oenothera biennis*) oil to be helpful with these potential complications of menopause. Small human studies do not report that evening primrose oil is helpful for the symptoms of PMS.

Despite popular belief, no natural progestins, estrogens or other reproductive hormones are found in wild yam. Its active ingredient, diosgenin, is not converted to hormones in the human body. Artificial progesterone has been added to some wild yam products. The belief that there are hormones in wild yam may be due to the historical fact that progesterone, androgens and cortisone were chemically manufactured from Mexican wild yam in the 1960s.

For more information on hormone therapy, please visit [Natural Standard's Health & Wellness database](#).

To comment on this story, please click [here](#) to enter the **Natural Standard** blog.

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- 1) Heiss G, Wallace R, Anderson GL, et al. Health risks and benefits 3 years after stopping randomized treatment with estrogen and progestin. JAMA. 2008 Mar 5;299(9):1036-45. [View Abstract](#).
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## Whole Body Vibration in Parkinson's Disease

Whole body vibration appears to be as effective as conventional physical therapy for treating gait and improving balance in patients with Parkinson's disease.

Parkinson's disease is a movement disorder that is chronic and progressive; symptoms continue and worsen over time. It affects nerve cells in a part of the brain that controls muscle movement.

Parkinson's disease occurs when a group of cells in an area of the brain called the substantia nigra begin to malfunction and die. The cells in the substantia nigra produce a chemical called dopamine. Dopamine is a neurotransmitter, or chemical messenger, which sends information to the parts of the brain that control movement and coordination.



When an individual has Parkinson's disease, his/her dopamine-producing cells begin to die and the amount of dopamine produced in the brain decreases. Messages from the brain telling the body how and when to move are therefore delivered more slowly, leaving a person incapable of initiating and controlling movements in a normal way.

The four primary symptoms of Parkinson's disease are tremor, or trembling in hands, arms, legs, jaw and face; rigidity, or stiffness of the limbs and trunk; bradykinesia, or slowness of movement; and postural instability, or impaired balance and coordination (parkinsonian gait). As these symptoms become more severe, patients may have difficulty walking, talking or completing other simple tasks.

Parkinson's disease usually affects people over the age of 50. There are 1-1.5 million people in the United States living with Parkinson's. The disorder occurs in all races but is somewhat more prevalent among Caucasians. Men are affected slightly more often than women.

Researchers from Germany compared the effects of whole body vibration and conventional physiotherapy on levodopa-resistant disturbances of balance and gait in idiopathic Parkinson's disease.

In the study, 27 patients with Parkinson's disease and dopa-resistant imbalance on stable dopamine replacement medication were randomized (intent-to-treat population) to receive whole body vibration (13 patients) or conventional physical therapy (14 patients).

The subjects received 30 sessions (two 15-min sessions a day, 5 days a week) of either whole body vibration on an oscillating platform or conventional balance training including exercises on a tilt board.

Twenty-one patients (per protocol population) completed follow-up (14 men, 7 women; 10 from the whole body vibration group and 11 controls).

The primary measure was the Tinetti Balance Scale score. Secondary clinical ratings included stand-walk-sit test, walking velocity, Unified Parkinson's Disease Rating Scale (section III motor examination) score, performance in the pull test and dynamic posturography.

The study found that the Tinetti score improved from 9.3 to 12.8 points in the whole body vibration group and from 8.3 to 11.7 in the controls. All secondary measures, except posturography, likewise improved at follow-up compared with baseline in both groups.

Quantitative dynamic posturography only improved in patients with whole body vibration and there was no significant change in controls.

The study authors concluded that equilibrium and gait improved in patients with Parkinson's disease receiving both conventional whole body vibration and conventional physical therapy in the setting of a comprehensive rehabilitation program. There was no conclusive evidence for the superior efficacy of whole body vibration compared with conventional balance training.

Integrative therapies with good scientific evidence in the treatment of Parkinson's disease include 5-HTP and music therapy.

5-HTP has been observed to have benefits in some people who have difficulty standing or walking because of cerebral ataxia (failure of part of the brain to regulate body posture and limb movements). Some research shows that 5-HTP may allow individuals with unsteady movements to stand alone without assistance, walk without aid or have improved coordination. Other research shows no benefit. Further research is needed before a conclusion can be drawn.

Music therapy has been reported to improve symptoms in people with Parkinson's disease. Modest improvement in symptoms including motor coordination, speech intelligibility and vocal intensity, bradykinesia (slow movement), emotional functions, activities of daily living and quality of life were seen.

Kava is an integrative therapy with fair negative evidence in the treatment of Parkinson's disease. It has been shown to increase 'off' periods in Parkinson patients taking levodopa and can cause a semicomatose state when given with alprazolam. Therefore, it is not recommended.

For more information on these therapies, please visit [Natural Standard's Foods, Herbs & Supplements](#) and [Health & Wellness](#) databases.

To comment on this story, please click [here](#) to enter the [Natural Standard](#) blog.

#### References:

1) Ebersbach G, Edler D, Kaufhold O, et al. Whole body vibration versus conventional physiotherapy to improve balance and gait in Parkinson's disease. Arch Phys Med Rehabil. 2008 Mar;89(3):399-403. [View Abstract](#).

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## Natural Standard in Body + Soul Magazine



Natural Standard's Co-Founder, Dr. Catherine Ulbricht, was interviewed for an article in [Body + Soul](#) magazine.

The article, entitled "Omega 3's" and written by Cheryl Alkon, used a [Natural Standard](#) report on omega-3s that assigned letter grades to their various uses.

More than 30 researchers analyzed hundreds of



studies looking at both omega-3s in the diet and supplement use. Doctors from prestigious institutions agreed with the findings.

Dietary sources of omega-3 fatty acids include fish oil and certain plant/nut oils. Fish oil contains both docosahexaenoic acid (DHA) and eicosapentaenoic

acid (EPA), while some nuts (English walnuts) and vegetable oils (canola, soybean, flaxseed/linseed, olive) contain alpha-linolenic acid (ALA).

There is evidence from multiple large-scale population (epidemiologic) studies and randomized controlled trials that intake of recommended amounts of DHA and EPA in the form of dietary fish or fish oil supplements lowers triglycerides, reduces the risk of death, heart attack, dangerous abnormal heart rhythms and strokes in people with known cardiovascular disease, slows the buildup of atherosclerotic plaques ("hardening of the arteries") and lowers blood pressure slightly.

However, high doses may have harmful effects, such as an increased risk of bleeding. Although similar benefits are proposed for alpha-linolenic acid, scientific evidence is less compelling, and beneficial effects may be less pronounced. Additionally, some species of fish carry a higher risk of environmental contamination, such as with methylmercury.

The American Heart Association (AHA) recommends including fish in the diet for all individuals and fish oil supplements in those with a history of cardiovascular disease. The U.S. Food and Drug Administration (FDA) allows products containing omega-3 fatty acids to state: "The scientific evidence about whether omega-3 fatty acids may reduce the risk of coronary heart disease is suggestive, but not conclusive."

For more information, the article can be found in the April 2008 issue of the magazine. To read the article online, click [here](#).

Body + Soul is new from the publishers of Martha Stewart Living. Body + Soul is a guide to living a healthier, balanced and more joyful life. With practical, clear, inspiring ideas and ways to enrich life, Body + Soul will help readers stay young, strong and vibrant.

The magazine contains articles with natural strategies to stay healthy, ways to feel fit and energetic, best ideas in vitamins and new ways to explore spiritual well-being.

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1) Chilton FH, Rudel LL, Parks JS, et al. Mechanisms by which botanical lipids affect inflammatory disorders. *Am J Clin Nutr*. 2008 Feb;87(2):498S-503S. [View Abstract](#).

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## Genomic Medicine for Common Adult Diseases



A new review found that more research is needed to determine the possibilities for genomic medicine in common chronic adult diseases.

Researchers from the RAND Corporation, Santa Monica, CA, explained that new advances in understanding the human genome may produce great public health benefits for common chronic diseases such as cardiovascular



disease, diabetes mellitus and cancer. Attempts to integrate such knowledge into clinical practice are still in the early stages, and as a result, many questions surround the

current state of this translation.

The review attempted to synthesize the current information on genetic health services for common adult-onset conditions by examining studies that have addressed the outcomes, consumer information needs, delivery and challenges in integrating these services.

The researchers used MEDLINE original research articles and systematic reviews dealing with common chronic adult-onset conditions published between January 2000 and February 2008. A total of 3,371 citations were reviewed. Of these, 170 articles were retrieved and 68 were included in the analysis.

Data were independently extracted by one reviewer and checked by another with disagreement resolved by consensus. Variables assessed included study design and four key areas: outcomes of genomic medicine, consumer information needs, delivery of genomic medicine and challenges and barriers to the integration of genomic medicine.

The review observed that generally, there were modest positive effects on psychological outcomes such as worry and anxiety. Behavioral outcomes have shown mixed results, and clinical outcomes were less well studied. One systematic review, one randomized controlled trial and 14 other studies assessed consumer information needs and found that genetics knowledge was generally low, but that overall attitudes were positive.

Three randomized controlled trials and 13 other studies assessed how genomic medicine is delivered and newer modes of delivery. The most consistent finding was that the primary care workforce does not adequately deliver genetic services. Additional identified barriers included lack of oversight of genetic testing and concerns about privacy and discrimination.

The study authors concluded that there are many gaps in knowledge about organization, clinician and patient needs. They emphasized the need to fill these gaps in order to translate advances in genomics into clinical practice.

For more information on genetic conditions, please visit [Natural Standard's Medical Conditions](#) database.

To comment on this story, please click [here](#) to enter the [Natural Standard](#) blog.

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## Cognitive Behavioral Therapy for Chronic Fatigue Syndrome

Cognitive behavioral therapy may be an effective treatment option for adolescents with chronic fatigue syndrome, a new study suggests.

Cognitive behavioral therapy is a psychotherapy based on modifying cognitions, assumptions, beliefs and behaviors with the aim of influencing disturbed emotions.

The particular therapeutic techniques vary, but commonly include: keeping a diary of significant events



and associated feelings, thoughts and behaviors; questioning and testing cognitions, assumptions, evaluations and beliefs that might be unhelpful and unrealistic; gradually facing activities that may have been avoided; and trying out new ways of behaving and reacting. Relaxation and distraction techniques are also commonly used.

Chronic fatigue syndrome is a disorder that causes extreme fatigue. The condition does not improve with bed rest. The flu-like symptoms associated with the disorder may last for years.

Researchers at the U.S. Centers for Disease Control and Prevention (CDC) identified the disease in 1988. However, the cause remains unknown, and there is currently no method to measure the severity of the condition. Also, since little is known about the disease, there are few treatment options available.

According to the CDC, about one million Americans have chronic fatigue syndrome. This disease affects more Americans than multiple sclerosis, lupus, lung cancer or ovarian cancer.

Researchers from Radboud University, Nijmegen, The Netherlands, assessed the long-term outcome of adolescents with chronic fatigue syndrome who received cognitive behavioral therapy.

A previous randomized, controlled trial of 66 adolescent patients with chronic fatigue syndrome showed that cognitive behavioral therapy was effective in reducing fatigue and improving physical functioning.

Fifty subjects also participated in a follow-up study and received cognitive behavioral therapy for chronic fatigue syndrome (32 formed the cognitive behavioral therapy group in the original trial, and 18 patients received cognitive behavioral therapy after the waiting period). The remaining 16 patients had refused cognitive behavioral therapy after the waiting period.

The main outcome measures were fatigue severity (Checklist Individual Strength), physical functioning (Short-Form General Health Survey) and school attendance. Data were complete for 61 patients at follow-up (cognitive behavioral therapy group: 47 patients; no-treatment group: 14 patients). The mean follow-up time was 2.1 years.

The study found that there was no significant change in fatigue severity between post-treatment and follow-up in the cognitive behavioral therapy group. However, there was a significant (10 percent) further increase in physical functioning and school attendance.

The adolescents in the cognitive behavioral therapy group were significantly less fatigued, less functionally impaired and had higher school attendance at follow-up than those in the no-treatment group. Fatigue severity of the mother was a significant predictor of the treatment outcome.

The study authors concluded that the positive effects of cognitive behavioral therapy in adolescents with chronic fatigue syndrome are sustained after treatment. Additionally, higher fatigue severity of the mother may impact treatment outcome in adolescent patients.

Integrative therapies with unclear evidence in the prevention or treatment of chronic fatigue syndrome include DHEA, evening primrose oil, folate and liver extract.

The scientific evidence remains unclear regarding the effects of dehydroepiandrosterone (DHEA) supplementation in patients with chronic fatigue syndrome. Better research is necessary before a clear conclusion can be drawn.

Not enough information is available to advise the use of evening primrose oil for symptoms of chronic fatigue syndrome or fatigue following a viral infection.

Some patients with CFS also have decreased folic acid levels. Daily injections of a combination of folic acid, bovine liver extract and vitamin B12 for three weeks were not beneficial for CFS in one study. Folate appears to be well tolerated in recommended doses.

And finally, an injectable solution of bovine liver extract containing folic acid and cyanocobalamin

has been studied as a potential treatment of chronic fatigue syndrome. Preliminary study indicates that patients with chronic fatigue syndrome reacted positively to intramuscular bovine liver extract. Additional study is needed to make a firm recommendation.

For more information on chronic fatigue syndrome, please visit [Natural Standard's Medical Conditions](#) database.

To comment on this story, please click [here](#) to enter the [Natural Standard](#) blog.

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1) Knoop H, Stulemeijer M, de Jong LW, et al. Efficacy of cognitive behavioral therapy for adolescents with chronic fatigue syndrome: long-term follow-up of a randomized, controlled trial. *Pediatrics*. 2008 Mar;121(3):e619-25. [View Abstract](#).

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## Nelinet Conference



[Natural Standard](#) will be exhibiting at the NELINET Annual Meeting 2008 on May 2, 2008 at the Four Points by Sheraton, Norwood, MA.

NELINET creates opportunities for connections, collaboration and cooperation among members to shape the future of New England libraries, museums, historical societies and other related information organizations in the evolving information environment.

The meeting will feature NELINET Award Winner and Distinguished Lecturer Henry Louis Gates, Jr., W.E.B. Du Bois Professor of Humanities, Chair of Afro-American Studies and Director of the W.E.B Du Bois Institute for Afro-American Research at Harvard University.

Eric von Hippel, Professor of Management at the MIT Sloan School and Professor of Engineering Systems at MIT, will be the keynote speaker.

For more information and to register, please visit [www.nelinet.net](http://www.nelinet.net).

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### **Welcome!**

**Natural Standard** would like to welcome Rosana Mean and Garth MacDonald from the University of Rhode Island.

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