



Major Medical Journal Recognizes Importance of Premium Vitamins in Treating Mental Illness

By Richard Hansen

Recently, a number of articles appeared in the **Journal of Clinical Psychiatry** recognizing the importance of folate B Vitamins in combating depression and dementia.

A major focus of the articles was folate, a form of Vitamin B considered "crucial for proper brain and body functioning."

Each piece cited case studies that established a strong connection between low folate levels and mental illness.

One such study, conducted in Finland, found that of 2682 men, those with the lowest folate levels were 67% more likely to experience "depressive symptoms."

Another community-based study in the United States, involving 3000 individuals between the ages of 15 and 39, revealed that those with a lifetime diagnosis of major depression had the lowest folate levels.

It was also noted "folate deficiency

may lead to poor treatment outcomes in patients by reducing treatment response (to antidepressants), slowing clinical improvement, and increasing relapse." Scientists believe this is because folate plays a critical role in the chemical reactions that produce serotonin, dopamine, and norepinephrine in the brain. It has long been known that these three chemicals are tied to clinical depression.

Vitamin B deficiency also leads to high levels of homocysteine in the body, which has been associated with depression, dementia, and "hardening" of the arteries.

In response to these findings, scientists and doctors are acknowledging the value of supplementation with B vitamins to treat and prevent mental illness.

The most common form of Vitamin B that people receive is folic acid. In 1996 the U.S. Food and Drug Administration mandated that grain products

be fortified with folic acid. Folic acid is also in most cheap, over-the-counter multivitamins.

Unfortunately, many people's bodies are incapable of fully absorbing and processing folic acid. This is especially a concern for those with certain genetic conditions, pregnant women, people taking oral contraceptives or anticonvulsants, sulfa antibiotics, and individuals who smoke or regularly consume alcohol.

It is recommended that these groups supplement their diets with a more refined form of the vitamin, such as calcium folinate or 5-methyltetrahydrofolate, which can be more readily utilized by the body.

It is also suggested that people take methylcobalamin, a bioactive form of Vitamin B-12. Folate supplements can mask Vitamin B-12 deficiency and hasten the damage to the nervous system that occurs with Vitamin B-12 deficiency.

DHA: A Fat That's Good for You and Your Brain

By Richard Hansen

Now that the head-long descent into winter has commenced you may have found yourself dreading those unfortunate "winter-time blues" that accompany the falling temperatures and shorter days.

Don't despair just yet, though. Scientists may have found a new way to help turn those frozen frowns upside down.

Researchers have established a correlation between diets low in the Omega-3 fatty acid DHA and depression.

DHA is what scientists call a polyunsaturated fat. Unlike saturated and trans fats, polyunsaturated fats are actually good for you.

Why? It is because your brain,

not your backside, is the fattest part of your body. Over 50% of the brain is composed of fat, and without essential fatty acids like DHA, it cannot function properly.

The body cannot readily produce DHA. Consequently, nutritionists and doctors agree that a person should consume at least 1500-2000 mg. of DHA a day.

The most common food sources of DHA are cold-water fish such as mackerel, tuna, herring, and salmon. DHA is also present in red meat, egg yolks, and some kinds of seaweed.

Processed foods that are a major part of many Americans' diets are largely devoid of Omega-3 fatty acids. Instead, they contain the Omega-6

polyunsaturated fat, arachidonic acid. The body can convert small amounts of Omega-6 fatty acids into DHA, but this conversion is not sufficient to meet the body's needs.

Studies have revealed that the ratio of arachidonic acid to Omega-3 fatty acids was high in patients exhibiting a range of depressive symptoms.

The geographic relationship between dietary intake of DHA and depression is also worth mentioning.

A 2006 article in the **American Journal of Psychiatry** reported that depression was less frequent in countries where people ate large amounts of seafood, rich in Omega-3 polyunsaturated fats.

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Dr. Carl's Corner

Stone Age No More

Medicine has reached the point where physicians, pharmacists, and the public need a good understanding of how disease, medications, and vitamins affect each other and the body.

A knowledgeable physician and pharmacist can help head off nutritional problems created by a prescription or over the counter drug.

A drug can cause vitamin deficiencies in a number of ways. No single explanation applies to all drugs or all vitamins.

Some drugs interfere with vitamin absorption in the digestive system.

Vitamin B-12 begins its absorptive journey in the mouth, where free Vitamin B-12 is protected by proteins secreted in saliva.

When medications and disease reduce the production of saliva you run the risk of inadequate Vitamin B-12 absorption.

Excessive stomach acid production and its reflux into the esophagus cause pain and other health problems for millions of Americans.

Medications that lower stomach acid include the histamine blockers and proton pump inhibitors. Some are now available as over the counter medications.

As people age, the amount of stomach acid secretion often declines. As a result, Vitamin B-12 supplements become a necessity.

Why is acid important for getting Vitamin B-12 from food? Acid helps liberate it from partially digested food in the stomach.

The stomach's parietal cells not only produce acid but also secrete Intrinsic Factor, which binds Vitamin B-12 for absorption.

Pernicious anemia is a common cause of Vitamin B-12 deficiency in which the immune system goes haywire causing Vitamin B-12 deficiency.

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British and American research has shown that people can take an oral Vitamin B-12 and avert the need for monthly injections of Vitamin B-12. A daily dose of 2,500 micrograms (2.5 mg.) is needed to secure this benefit.

The small intestine is the part of the digestive system just beyond the stomach.

If disease or medications damage the terminal ileum of the small intestine, a Vitamin B-12 deficiency can develop.

Gastrointestinal infections can damage the small intestine and cause Vitamin B-12 malabsorption.

Alcohol can also injure the small intestine and lead to Vitamin B-12 deficiency.

What happens once Vitamin B-12 is absorbed? it is transported to the liver for metabolism or storage.

Is one form of Vitamin B-12 as good as any other? In order for the body's chemistry to work, coenzyme Vitamin B-12 must be "hitched" to pro-

teins called enzymes.

The body uses only two Vitamin B-12 coenzymes, methylcobalamin and adenosylcobalamin.

The body uses methylcobalamin and a coenzyme folate to regenerate the essential amino acid methionine from the toxic amino acid homocysteine.

If the body cannot remove homocysteine, the heart, brain, bones, and genes can be damaged.

Adenosylcobalamin is produced from other forms of Vitamin B-12 inside the mitochondria.

They are the metabolic and energy factories of your cells.

Adenosylcobalamin helps create normal fat molecules that have even numbers of carbons in their backbones.

Build-up of methylmalonic acid helps distinguish Vitamin B-12 deficiency from folate deficiency. Either can result in elevated homocysteine.

DHA: A Fat That's Good for You - Continued

Iceland is an interesting example. Living near the Arctic Circle, Icelanders must endure long, cold winters where the sun only shines for a few hours a day. One would assume the Seasonal Affective Disorder (SAD) and depression would be common there. Surprisingly, researchers found that rates of SAD are lower in Iceland than in parts of the United States where seasonal conditions are much milder.

The key, scientists believe, may be the Icelandic diet.

The average Icelander consumes over 225 pounds of fish a year; Americans eat only 50-70 pounds. As a result, most people in Iceland consume much greater quantities of DHA than people in "SAD-der" parts of the world.

Findings in other countries provide additional support for this hypothesis.

Native populations in Alaska that subsisted on fish and fish-eating animals have traditionally had lower rates of mental illness than non-natives. However, when these native communities began to adopt a western, DHA-deficient diet they experienced an explosion in cases of depression and suicide.

These revelations have compelled scientists to investigate the potential role of DHA in treating depression.

Research is yielding promising results. A handful of studies now indicate that DHA could prove beneficial in managing depression and its symptoms.

DHA may also help new mothers contending with post-partum depression. As a fetus grows it absorbs the DHA needed for brain development from its mother. Once the baby is born, it receives DHA from its mother by way of breast milk. If DHA is depleted in a pregnant or nursing mother, then she would be at greater risk for depression.

Alcohol and drug use, as well as certain genetic conditions, also lead to DHA deficiency.

So what to do? One option is to start eating more fish.

A potential drawback of getting all the DHA you need from fish is that some are contaminated with toxins and heavy metals. If this fact is a concern, or you simply don't feel like eating pickled herring three times a week, you can always opt for a DHA supplement.

In the News

This year marks the passing of a number of our dear friends including Ralph A. Schwartz. Ralph died from a massive stroke following what his doctor's believe was a viral infection that affected his heart and produced blood clots in different parts of his body.

Ralph was a world class trumpeter. Together we created an electronic encyclopedia called Trumpet and the Language of Music. It blended his knowledge of the instrument with my knowledge of neuroscience and computers.

He applied the methodology in his own craft and taught it to his students. I witnessed, first hand, amazing transformations and development of musical talent. He and his students would practice at the office in the evening.

His greatest passion was art. It blossomed over the years I knew Ralph. It was charged by exposure to the work of my brother Doug and college friend Tim Lemke.

He developed a deep knowledge of Illustrator and electronic media and helped create the characters belonging to "The Wonderful Amazing World of DrMac™ (WAWDM). Link, the Caveman, featured in **MENDWise** and a recent postcard, is one of these characters.

Ralph shared his understanding of hunting, fishing, and all things outdoors with my son Richard. They also shared a love of language and literature.

In Ralph's absence, Richard has pitched in with various projects that were on the drawing board when Ralph died. Two of his articles are featured in this edition of **MENDWise**. We look forward to reading more of his work in future editions.

Ralph was a fellow Kiwanian and served as secretary of the Kiwanis Club of Downtown Minneapolis. We were drawn to Kiwanis because of its mission: "Serving the Children of the World." He enjoyed the fellowship and service projects of this club, which just celebrated its 90th anniversary.

His two teenage children, Melani and Kyle, share his love of all things musical and electronic. They share his compassion, passion, and intense intellectual gifts. - Dr. Carl

Laurie's Corner

Artichoke Dip

What would the holidays be like without artichoke dip?

It is always a hit and everyone knows how to make it since it is an easy recipe to remember.

I've added my own touches to the basic recipe to give it some holiday dazzle!

Basic:

1 cup Mayonnaise
1 cup shredded Parmesan cheese
1 can artichoke hearts (14 oz.), drained, "de-fibered" and chopped

Dazzle:

1 teas. Dijon or stoneground mustard
1 sm. clove garlic, minced
Dash cayenne pepper
3 green onions, minced (reserve some green tops for decoration)
1 jar diced pimento (2 oz.), (reserve some for decoration)
½ cup seasoned croutons, crushed
Cocktail rye bread, cut in half diagonally

Directions:

Mix all ingredients (except croutons and bread); put in oven-safe dish and flatten.

Put croutons in bowl and crush with the bottom of a glass or put on cutting board and crush with a rolling pin. Sprinkle on top.

Decorate with the reserved green onion and pimento – to form a star, bell, wreath, candy cane, or Christmas tree (cut a star out of the lemon rind for the top of the tree).

Bake 325 degrees for 25-30 minutes.

Serve with cocktail rye bread.



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Directions:

Place crackers on a tray.

Cut Havarti into 1 1/4" squares (1/4" thick) and place on each cracker.

Wash and peel kiwi and slice (1/4") rounds and place on top of the Havarti.

Wash and de-stem strawberries.

Cut lengthwise into 3 or 4 pieces and place on top of kiwi slice. The strawberry piece will look like a heart!

What a way to start out 2008!

This 'N That

Stinky Hands Tip:

After chopping onions, garlic or handling fish, wet your hands thoroughly and place a drop or two of GSE (Grapefruit Seed Extract) on them and rub all affected parts of your hands for a few seconds and then rinse off.

Fun Finds

Sensitive skin?

The NutriBiotic® **Skin Cleanser** brings deep, gentle cleansing and is specially designed for the sensitive skin of the face and hands; non-soap, fragrance-free, hypo-allergenic and pH balanced. 16 fl. oz. \$7.95.

Hands chapped?

The NutriBiotic® **Hand & Body Lotion** (essence of grapefruit) protects skin with gentle natural moisturizers from coconut, pure aloe vera gel, shea butter, sweet almond oil along with Vitamins E, A, and C. 8 fl. oz. \$10.95.

The Mayumi **Squalane Hand & Body Lotion**, a moisturizing cream for all seasons (unscented) is super rich and ensures a silky skin texture during the cold of winter as well as the heat of summer. Squalane Lotion is the natural way to heal both ski and beach sunburned skin. 8 fl. oz. \$12.95

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