

# Nutrition & Mental Health

The Quarterly Newsletter of the International Schizophrenia Foundation



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## FROM THE EDITOR

### Ruffled Minds and Restless Pillows

We can blame bright lights, babies, bin Laden or barking, but whatever the cause, we seem to have become a nation of insomniacs. The erosion of the night goes all the way back to 19th century America when Thomas Edison began to mass-produce the light bulb to illuminate parlours deep into the night. Edison, an ingenious but cranky misanthrope, long suspected people used darkness as an excuse to be “lazy” and since then, we malingerers have been constantly sleep deprived. We are now living one of history’s greatest human experiments in sleep deprivation and we are all reluctant participants.

In 1913, the average person enjoyed a luscious 9.5 hours under the duvet—a physiological ideal—but by 2005 sleep on average had fallen to 6.8 hours on weeknights. Furthermore, 75 percent of American adults experience symptoms of a sleep problem at least several times a week, and chronic insomnia affects up to 10 percent of the population. Depression and anxiety, rather than insomnia per se, appear to be significant contributing factors.

How is sleep a factor in mental health? Sleep makes a difference in everything that we do. “The process of sleep, if given adequate time and the proper environment, provides tremendous power,” says James B. Maas, Ph.D., professor

of psychology at Cornell University. “It restores, rejuvenates, and energizes the body and the brain. The one-third of your life that you spend sleeping has profound effects on the other two-thirds. Your sleep affects your alertness, energy, mood, body weight, perception, memory, thinking, reaction time, productivity, performance, communications skills, creativity, safety, and good health.”

Our body’s hunger for the sleep of yore hasn’t gone unnoticed by the pharmaceutical industry. North Americans are taking sleeping pills like never before, following a tsunami of direct-to-consumer advertising that promises safe slumber with minimal side effects. About 42 million sleeping pill prescriptions were filled last year, according to the research company IMS Health, with the major chemical combatants in the field being Lunesta and Ambien. Lunesta sales for 2005 was estimated at \$220 million and projected to eventually reach \$1 billion a year. Lunesta, among other contenders, is gunning to topple the \$1.9 billion Ambien juggernaut which will sputter and wheeze to a halt when its patent expires in October, 2006.

“We’ve already started to see an enormous marketing push for these drugs, with insomnia now labeled the latest “epidemic” threatening the health of America,” said Dr. Jerry Avorn, a Harvard Medical School professor.

As we watch irresistible marketing meet immovable insomnia, one thing we

should ask is “Who are our allies in our quest for deep REM?” Unfortunately, there are billions of dollars to be made in getting patients onto longterm regimes of expensive medications but no money to be made informing people that their sleep-deprivation is mostly voluntary and imposed by the environment.

People simply stay up too late trying to reclaim a bit of life during the work week and are unable to de-stress after meeting the demands of school, work and family. Lifestyle crutches like caffeine addiction and napping further disrupt nature’s light cycles which derange the natural melatonin cycles and leave us tossing and turning in bed. Besides making modest lifestyle changes, there are so many orthomolecular therapies we can avail ourselves of before we reach for the pharmaceutical polo mallet. Light therapy is one effective first-line treatment to reset one’s natural sleep/wake cycles, and mini-lightbanks are now cheaper than a two-month supply of Ambien. Nutrients such as magnesium, melatonin, 5-HTP and the trusted herbal standby, valerian, all have been shown clinically to be inexpensive, safe and effective long-term treatments.

No, we can’t turn back time to the halcyon days of sleep, so what’s an insomniac to do? Be a conscientious objector to the latest pharma-war and go gentle with orthomolecular into the good night.

—Greg Schillhab

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# ORTHOMOLECULAR FRONTIERS

## **Chromium and Depression: the Glycemic Connection**

Atypical depression is a common but frequently undiagnosed form of depression affecting millions of North Americans. It differs from other depressive disorders in that it is characterized by a distinct combination of symptoms that include mood swings, carbohydrate cravings, weight gain and lethargy.

There is now some good news for those sufferers who cannot tolerate traditional drug therapies for atypical depression. Chromium supplementation is becoming recognized as a novel and effective orthomolecular therapy, a line of research that has grown out of observations in previous studies of carbohydrate and insulin metabolism.

Chromium, a mineral that the body needs in trace amounts, is found naturally in meat, whole grains and vegetables and fruits like broccoli, potatoes and apples. The mineral enhances the action of insulin and helps break down carbohydrates, fat and protein.

Numerous clinical studies show that nutritional supplementation with chromium in the form of chromium picolinate (CP), helps improve insulin insensitivity and Type II diabetes.

A 15-patient pilot study at Duke University Medical Center evaluated the benefits of CP for depression in an eight-week double-blind, placebo-controlled, randomized clinical trial. Patients in this study had major depression with accompanying weight gain, carbohydrate cravings and unexplained fatigue. They were given either 400-600 mcg per day of CP, or a placebo. The results of the study showed that 70 percent of the patients receiving CP significantly responded to supplementation, this compared to a 0 percent response in patients receiving a placebo.

A larger double-blind, placebo-controlled human clinical trial of 113 patients found that daily supplementation with CP significantly reduced some key symptoms of atypical depression. The multi-center study found that daily supplementation with 600 mcg of CP significantly reduced carbohy-

drate cravings compared to placebo, and improved other symptoms such as mood swings, fatigue and weight gain perception. The results also showed that people with the highest levels of carbohydrate cravings had the most significant reduction in depressive symptoms. This study suggests that carbohydrate cravings may be the key independent marker of atypical depression and might predict how patients will respond to chromium picolinate therapy.

How does a mineral which traditionally had been thought of as a glycemic control have anti-depressant qualities? Researchers have uncovered several mechanisms of action. Chromium promotes the conversion of tryptophan to serotonin by facilitating absorption into muscle tissue of the amino acids that compete with tryptophan for access to the brain. Researchers have also found that chromium beneficially blocked a critical receptor in the brain. Similar effects have been produced by antidepressants like imipramine.

Chromium's essential role in insulin function, however, may be the essential link between chromium, carbohydrate cravings and atypical depression. Insulin has effects on metabolic function that affect serotonin levels in the brain. Impaired insulin function, which leads to poor glycemic control, is linked to a number of health conditions which are found in this type of depression.

One of the great benefits of orthomolecular medicine has been the window it offers into the relationships between so-called "distinct" diseases and our general nutritional health. A recent lesson in this has been discovered in the case of EPA in fish oil, which was traditionally used in cardiovascular disease and is now showing great promise in treating bipolar disease. In a similar way, chromium underscores the connections between the body and mind. It may offer a new treatment option for atypical depressed patients with carbohydrate cravings who find it difficult to stay on current prescription medication because of the common side effects of sexual dysfunction and weight gain.

—Greg Schilhab

# IN BRIEF

## **Valerian and Lemon Balm are Effective in the Treatment of Restlessness and Dyssomnia in Children**

The efficacy and tolerability of a combined valerian/lemon balm preparation were investigated in an open, multicentre study in children less than 12 years old suffering from restlessness and insomnia. Patients were dosed individually by the investigators. In total, 918 children were evaluated for therapeutic efficacy and tolerability. A distinct and convincing reduction in severity was found for all symptoms in the investigators' and parents' ratings. The core symptoms of insomnia and restlessness were reduced from "moderate/severe" to "mild" or "absent" in most of the patients. In total, 80.9% of the patients who suffered from insomnia experienced an improvement for this symptom and 70.4% of the patients with restlessness improved clearly. For the other listed symptoms the total improvement was 37.8% on average. Both parents and investigators assessed efficacy as being "very good" or "good" (60.5% and 67.7%, respectively). The tolerability of the valerian/lemon balm preparation was considered as "good" in 96.7% of the patients. No medication-related adverse events occurred in the study. In conclusion, this safe herbal combination was effective in the treatment of younger children with restlessness and insomnia and was very well tolerated.

—*Phytomedicine, February 2006*

## **Amino Acids added to Antipsychotics for the Treatment of Schizophrenia**

Low functioning of the brain's N-methyl-d-aspartate (NMDA) subtype glutamate receptor had been implicated in the pathophysiology of schizophrenia. Treatment with natural amino acids such as D-serine and glycine has been previously shown to improve the symptoms of schizophrenia. In this study, another amino acid, D-alanine was tested to assess its beneficial effects on schizophrenia.

Thirty-two schizophrenic patients enrolled in a 6-week double-blind, placebo-controlled trial of D-alanine (100 mg/kg/day), which was added to their

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stable antipsychotic regimens. Measures of clinical efficacy and side effects were determined every other week. At the end of the trial, patients who received D-alanine treatment experienced significant reductions in schizophrenic symptoms as measured by the Clinical Global Impression Scale and Positive and Negative Syndrome Scale (PANSS) total scores. The Scale for the Assessment of Negative Symptoms and PANSS subscores of positive and cognitive symptoms were also improved. D-alanine was well tolerated, and no significant side effect was noted.

The significant improvement with the D-alanine further supports the hypothesis of hypofunction of NMDA neurotransmission in schizophrenia and strengthens the proof of the principle that NMDA-enhancing treatment is a promising approach for the pharmacotherapy of schizophrenia.

—*Biol Psychiatry*, 59(3): 230-4 2006

### **Efficacy of Ethyl-Eicosapentaenoic Acid in Bipolar Depression: A Randomized Double-blind Placebo-Controlled Study**

Epidemiological and clinical studies suggest that increased intake of eicosapentaenoic acid (EPA) found in fish oil alleviates unipolar depression. The aim of this study was to further examine the efficacy of EPA in treating depression in bipolar disorder.

In a 12-week, double-blind study 75 individuals with bipolar depression were randomly assigned to adjunctive treatment with placebo (n=26) or with 1 g/day (n=24) or 2 g/day (n=25) of ethyl-EPA. Primary efficacy was assessed by the Hamilton Rating Scale for Depression (HRSD), with changes in the Young Mania Rating Scale and Clinical Global Impression Scale (CGI) as secondary outcome measures.

Significant improvement was noted with ethyl-EPA treatment compared with placebo in the HRSD and the CGI scores. Both doses were well tolerated. This study further supports the use of ethyl-EPA as an effective and well-tolerated intervention in bipolar depression.

—*Br J Psychiatry*, 188: 46-50 2006

### **Effects of Siberian Ginseng on Elderly Quality of Life: A Clinical Trial**

An unspecific feeling of fatigue and asthenia often pushes elderly patients to seek forms of help even from non-traditional medical sources. Traditional Chinese medicine suggests that Siberian ginseng could act as a safe “adaptogenic” substance. The aim of this study was to test the effect of a Siberian Ginseng administration on the elderly using the health related quality of life survey (HRQOL). Twenty elderly hypertensive volunteers with a mean age of 65 years were randomized in a double-blind manner to *E. senticosus* dry extract 300 mg/day or placebo for 8 weeks. The HRQOL survey was used at baseline and at 4 and 8 weeks. There were no significant differences in baseline demographics and test scores between the groups.

After 4 weeks of therapy, higher scores in social functioning scales were observed in patients randomized to Ginseng by the fourth week. No adverse event was observed in either group of patients.

The researchers concluded that Ginseng safely improves some aspects of mental health and social functioning after 4 weeks of therapy.

—*Arch Gerontol Geriatr Suppl*, (9): 2004

### **Supplementation of Vitamin C with Atypical Antipsychotics Improves the Outcome of Schizophrenia**

The aim of this study was to examine the effect of oral vitamin C with atypical antipsychotics on serum malondialdehyde (MDA—a measure of oxidant stress), plasma ascorbic acid levels, and brief psychiatric rating scale (BPRS) score in schizophrenic patients.

Forty schizophrenic patients participated in a prospective, double-blind, placebo-controlled, noncrossover, 8-week study. The patients with schizophrenia were divided randomly into placebo and vitamin C groups of 20 each. Serum MDA and plasma ascorbic acid were estimated by methods of Nischal and Aye, respectively.

Increased serum MDA and decreased plasma ascorbic acid levels were

found in schizophrenic patients. These levels were reversed significantly after treatment with vitamin C along with atypical antipsychotics compared to placebo with atypical antipsychotics. Significant improvements in BPRS scores occurred at 8 weeks with vitamin C as compared to placebo. The evidence suggests that oral supplementation of vitamin C with atypical antipsychotic reverses ascorbic acid levels, reduces oxidative stress, and improves BPRS scores and are useful in the treatment of schizophrenia.

—*Department of Pharmacology, Government Medical College, Nagpur, India.*

### **Placebo-controlled Trial Of DHEA for Treatment of Nonmajor Depression in Patients with HIV/AIDS**

Subsyndromal major depressive disorder is common among HIV-positive adults. This study was designed to assess the efficacy of the natural supplement dehydroepiandrosterone (DHEA) as a potential treatment. One hundred forty-five patients with subsyndromal depression or dysthymia were randomly assigned to receive either DHEA (100–400 mg/day) or placebo for an 8-week trial. The primary measure of efficacy was a Clinical Global Impression improvement Scale. (a rating of 1 or 2 = much or very much improved) plus a final Hamilton Depression Rating Scale score  $\leq 8$ .

On the basis of clinicians' ratings, DHEA was superior to placebo where the response rate was 56% (43 of 77) for the DHEA group versus 31% (21 of 68) for the placebo group. In the complete analysis, the response rate was 62% (43 of 69) for the DHEA group, compared to 33% (21 of 64) for the placebo patients. Few adverse events were reported in either treatment group. Nonmajor but persistent depression is common in patients with HIV/AIDS, and DHEA appears to be a useful treatment that is superior to placebo in reducing depressive symptoms. The low attrition rate in this group of physically ill patients, together with requests for extended open-label treatment, reflect high acceptance of this readily available intervention.

—*New York State Psychiatric Institute, Columbia University College of Physicians and Surgeons, New York.*

## BOOK REVIEW

### Treating & Beating Anxiety and Depression with Orthomolecular Medicine

by Dr. Rodger Murphree,  
Harrison & Hampton Publ. 2005  
Birmingham, AL  
Paperback, 141 pages, \$20.95

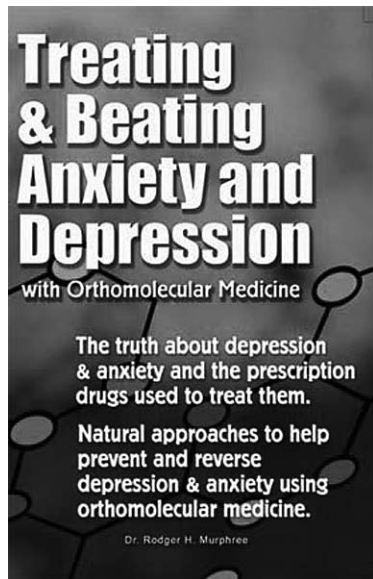
With anxiety and depression near epidemic levels, doctors face waiting rooms full of sick patients. Managed care pressures lead to quick diagnoses and easy treatments. Many doctors prescribe medication(s), starting with an SSRI antidepressant. If that doesn't help, doctors have anti-anxiety and antipsychotic pills, and combinations. If the pills work, fine, but what about the practice guidelines of psychiatry? They encourage brain doctors to take proper care: mental status exams, patient and family medical and mental histories, and use diagnostic tests to identify causes of symptoms before prescribing.

Murphree's book explains how guideline-quality orthomolecular medicine offers safe, effective and restorative care. He considers each patient's real diagnosis, lists the commonly-prescribed medications and their potentially troublesome side effects, before suggesting which vitamin, mineral, amino and fatty acid regimens can help, particularly when adjusted for biochemical individuality.

Murphree notes that the amino acids GABA and theanine can help anxious patients, and reviews how a near-normal thyroid condition may improve after treatment with T3 and T4 rather than relying on a synthetic thyroid medication which only has T4. FAQ sections answer commonly-asked questions.

Dr. Murphree's concise book shares orthomolecular information, help and hope. It is clearly written to assist patients, families, caregivers and health professionals.

—review by Robert Sealey, BSc, CA



## NEWS

### Exercise Reduces Alzheimer's Risk

Regular exercise controls the expression of genes in an area of the brain important for memory and maintaining healthy cells in the brain.

There is a connection between the genes that control growth hormones and other important molecules and the genes' ability to be stimulated by exercise. After three weeks of running on their cage wheels, rats had changed the expression, or activity, of genes in an area of the brain called the hippocampus, a structure usually associated with higher cognitive functions like memory, thinking and learning.

Genes affected include that for BDNF, short for "brain-derived neurotrophic factor," which helps amplify nerve signals important in maintaining a healthy nervous system and IGF-1, part of the immune system that helps in the growth of new nerve cells and aids in protection of cells from injury.

Work with Alzheimer's patients by Linda Teri, at the University of Washington, bears out this hypothesis. She has created a home-based exercise program for patients with Alzheimer's disease combined with teaching caregivers. In her study, 153 community-dwelling patients were randomized to a three-month combined 30 minutes per day exercise and caregiver training program or routine medical care. Exercise patients were 3 times more likely have had improved scores for physical role functioning.

Two years later, exercise patients continued to have better physical role functioning and a trend toward less institutionalization due to behavioural disturbance. They had improved Cornell Scale for Depression in Dementia scores at three months. Those exercise patients with higher depression scores at baseline, improved significantly more at three months on the Hamilton Depression Rating Scale and they had maintained that improvement two years later.

Geriatric medicine can take important lessons from Teri's work: not to underestimate the body-mind connection in degenerative disease and the effectiveness of simple, cost-free therapies to maintain health throughout the life span.

