Nutrition & Mental Health

The Quarterly Newsletter of the International Schizophrenia Foundation

Winter 2006

FROM THE EDITOR

Tarnishing the Gold Standard

At a recent brunch I went to with a group of friends, we got onto the subject of science and society. Two acquaintances were there, both doctoral candidates, one in the philosophy of science, the other in the history of medicine. The conversation drifted to how the (now perfected) scientific method brought us out of the dark ages of superstition and allowed us to fully understand the natural world around us.

That's just the sort of presumption that your editor, having worked so many years at the ISF, cannot digest so early in the morning. "Science? Facts?" I inquired... "What are facts? Yesterday's scientific "facts" are today's discarded philosophies. What happened to the miasmatic theory of disease–that the black plague was caused by a kind of ill wind? How about Aristotle's theory of abiogenesis (that living organisms were generated by decaying organic substances) which was proven by the "fact" that mice spontaneously appear in stored grain? Don't get me started on niacin vs. drugs for schizophrenia!" I said, waving my fork over my eggs Florentine..."Who arranges those facts of yours into the theories and philosophies that affect us all?" I doubt I convinced anyone there, but it got me thinking.

Perhaps our faith or lack of it in science is related to our confusion regarding facts, theories and philosophies. Progress can blind us. Daily, our lives are touched by technologies that work to make our lives smoother, and the real medical advances in antibiotics, genetics and surgery reinforce our instinctive trust in the white lab coat. Without realizing, we assume medicine is just like engineering or physics–an inherently self-correcting machine that winnows out errors and marches to truth.

But what happens when we are ill and medicine fails us? We get a second opinion, of course. The same facts arranged in a new way. Often, patients get true relief from the same symptoms by turning to a orthomolecular practitioner.

Perhaps it is because we perceive facts like we do the rain: not as forming high up, but on the ground in the human landscape where they are subjective, not cold and hard. Facts precipitate down from experiment and survey, to analysis, to peer review, to publishing and politics, then on to theory and philosophy in the mind of the practitioner. It is during this journey that the same set of raw facts are interpreted so differenttly and diverge to the orthomolecular or the toximolecular schools of thought.

How does the objective become the subjective? In the toximolecular world of medicine, the culprit is private industry which has unprecedented leverage to dictate what doctors and patients know-–and don't know–about the $160 billion worth of pharmaceuticals North Americans use each year. This distorting influence is so vast that we can only touch on a couple of examples.

Let's imagine company X develops a new drug, less safe and ten times the price of the standard fare. Is it a failure? Not necessarily when "bioethical branding" is deployed. In the public relations world, this is a "third-party strategy," of getting your message into the mouth of an authoritative and seemingly independent party. A drug company may recruit a third party known as a Key Opinion Leader–an influential figure respected by his peers and often eagerly sought out by the press. The KOL could be a grand rounds speaker at a teaching hospital, an author on the talk show circuit or a socially conscious bioethicist interested in covering a medical conference. KOLs, once hired as consultants, are expected to generate "mindshare" for a new drug by talking casually to colleagues, giving lectures at meetings, speaking to the press, or anything else that will garner positive publicity. The PR agency Chandler and Chicco, speaking in the trade journal *PharmaVoice* says it best: "While the buzz must appear to be spontaneous, it should, in fact, be scientifically crafted and controlled as tightly as advertising in the *New England Journal of Medicine.*" When Ely Lilly created Xigris, their new drug for sepsis, it cost $6,800 per treatment–a problem when the standard treatment cost $50 per day. To promote the drug, Lilly hired a PR firm to create a "Values, Ethics & Rationing in Critical Care Task Force," in which hired KOL bioethicists promoted

Nutrition & Mental Health (ISSN 1199-7699) is published quarterly by the International Schizophrenia Foundation, 16 Florence Avenue, Toronto, Ontario, Canada, M2N 1E9. Phone (416) 733 -2117, Fax (416) 733-2352. E-mail centre@orthomed.org Copyright by the International Schizophrenia Foundation. ISF Membership is $35.00 per year which includes a subscription to Nutrition & Mental Health. It is recommended that treatment of all health problems be undertaken in consultation with a qualified Health Professional.
Editor/Production: Greg Schilhab Managing Editor: Steven Carter

Editorial (Cont'd)

the idea that it is "unethical not to use a drug" because of the cost.

Ah, but thank God peer-reviewed medical literature–where facts exist in their pure form–is protected by statistics and oversight. Not quite. Even though journals are the critical reference points for clinicians deciding what drugs to prescribe, for individuals trying to educate themselves, and for science reporters who publicize findings, the studies they contain are increasingly likely to be designed, controlled, and even ghost-written by specialized PR firms called medical communications agencies. Hired by drug firms themselves, their task is to tailor-make studies and pay academics to attach their names to them, sometimes without even being allowed to see the raw data of the study.

A recent article in the *British Journal of Psychiatry* examined articles on Pfizer's antidepressant Zoloft which were, in fact written by the PR agency, Current Medical Directions. When checked against the raw data during litigation, it became clear that the mysterious writers omitted or greatly minimized Zoloft's side effects, including the risk of suicidal acts.

The bottom line is that articles appearing in medical journals today can't be trusted like they were twenty years ago. Clinical trials are now a tarnished gold standard because the facts of yesterday have been eclipsed by a new scientific philosophy: drugs are the answer. Yale University researchers writing in *JAMA* last year re-analyzed data from eight separate studies of the effect of conflict of interest on 1,140 published scientific papers, and found that papers based on industry-sponsored research were significantly more likely to reflect favorably on the sponsoring company's drug than research supported by a non-profit entity or the government.

Against these disturbing ethical lapses, there is still hope for those with mental illness. Orthomolecular psychiatry with its practitioners, labs, conferences and journals have created a better treatment philosophy. But how did the same science lead to such different conclusions about health and disease? If we follow the money we can see.

Orthomolecular physicians primarily use substances natural to mind and body, free of proprietary patents. Supplement companies, dealing with essentially analogous products have little incentive over one another to use bioethicists as agents of influence or steer physicians to the same vitamin their competitor makes. Orthomolecular physicians recommendations are for substances–the right molecules–not the right brand.The laboratories and testing facilities used in orthomolecular psychiatry are smaller, earn slimmer margins from individual patients and are free of government health-care funding. They are inoculated against the connivance and corruption of academia, lobbied government and industry.

Having attended ten of our *Nutritional Medicine Today* Conferences, I can say that orthomolecular gatherings are marked by a total focus on the patient, the very thing conspicuous by its absence in the chemical bacchanal I witnessed at the last American Psychiatric Association meeting. Orthomolecular physicians opt for an ethos of helping people get well by whatever means, and do so despite professional disincentives like lower incomes and less recognition in the traditional medical world.

And then there are the journals. Since most studies and reviews deal with non-patentable substances, the funding isn't likely to come from dubious sources and the results are unlikely to have the fingerprints of some PR hack behind them. Authors don't get the surreptitious funding that doctors who study drugs often receive, because the cash mountain just isn't there. The incentive to publish orthomecular journals is rather countercultural: exchanging ideas to become more effective physicians.

Psychiatrists are fallible like the rest of us: they often take prepared theories at face value and treat them as laws of nature, because few of us are privy to the pure facts of science. The best we can do is to pay close attention to who arranges those facts into theories and philosophies. When a physician brushes off our inquiries about an orthomolecular approach, saying "there's really no scientific support for that," we needn't be discouraged, knowing that what he really means is "there's no place for that idea in my philosophy of medicine."

–Greg Schihab

IN BRIEF

Vitamin D Supplementation and the Development of Schizophrenia

The aim of this study was to explore the association between the use of vitamin D supplements during the first year of life and risk of developing schizophrenia. Males and females were drawn from the Northern Finland 1966 Birth Cohort (n=9,114). During the first year of life, data were collected about the frequency and dose of vitamin D supplementation. Outcome measures were schizophrenia, psychotic disorders other than schizophrenia diagnosed by age 31. In males, the use of vitamin D supplements was associated with a reduced risk of schizophrenia compared with no supplementation. Vitamin D supplementation during the first year of life is associated with a reduced risk of schizophrenia in males and preventing hypovitaminosis D during early life may reduce its incidence.

–Schizophr Res, 67(2-3): 237-45 2004

Effects of a Short-Term Endurance Training Program in Patients with Major Depression

A prospective, randomised, controlled study at a university hospital recruited a thirty-eight inpatients with a major depression episode in the initial phase of standard clinical antidepressant medication therapy. Twenty patients were randomly assigned to an exercise (walking) and eighteen were given placebo (low-intensity stretching and relaxation exercises) group. Training was carried out for 10 days. The main outcome measurements were severity of depression assessed with the Bech-Raffaelsen Melancholy Scale (BRMS) and the Center for Epidemiologic Studies Depression scale (CES-D).

After 10 days, reduction of depression scores within the exercise group was significantly larger than in the placebo group (BRMS: 36% vs. 18%; CES-D: 41% vs. 21%). The proportion of patients with a clinical response of more than six points was also larger for the exercise group (65% vs. 22%). It appears from this study that endurance exercise may help to achieve substantial improvement in the mood of selected patients with major depression in a short time.

–Br J Sports Med, 2006

Low Essential Fatty Acid and B-vitamin Status in a Subgroup of Patients with Schizophrenia and its Response to Dietary Supplementation

Researchers assessed essential fatty acid (EFA) and B-vitamin status in 61 patients with schizophrenia to determine whether those with poor status responded to appropriate dietary supplements. As a group, the patients had high erythrocyte saturated fatty acids (FAs), monounsaturated FA and low polyunsaturated FA of the omega 3 and omega 6 series. Patients reporting not to take vitamin supplements had low vitamin B_{12} and high homocysteine. Homocysteine variance proved best explained by folate in both the total group and male patients, and by vitamins B_{12} and B_6 in females. Alcohol consumption and duration of illness are risk factors for low polyunsaturated FA status, while male gender and absence of fish consumption predict hyperhomocysteinemia. Two patients exhibited biochemical EFA deficiency and seven showed biochemical signs of omega3/docosahexaenoic acid (DHA) marginality. Four patients exhibited moderate hyperhomocysteinemia with plasma values ranging from 57.5 to 74.8 micromol/L. None of the five patients with either moderate hyperhomocysteinemia, biochemical EFA deficiency, or both, was predicted by their clinicians to have poor diets. That diet was nevertheless at the basis of these abnormalities became confirmed after supplementing four of them with B vitamins and with soybean and fish oils.

The researchers concluded that a subgroup of patients with schizophrenia has biochemical EFA and omega 3/DHA deficiency, moderate hyperhomocysteinemia, or combinations. Correction seems indicated in view of the possible relation of poor EFA and B-vitamin status with some of their psychiatric symptoms, but notably to reduce their high risk of cardiovascular disease.

–Prostaglandins Leukot Essent Fatty Acids, 74(2): 75-85 2006

Polyunsaturated Fatty Acid Supplementation for Schizophrenia.

Limited evidence supports a hypothesis suggesting that schizophrenic symptoms may be the result of altered neuronal membrane structure and metabolism. The structure and metabolism is dependent on blood plasma levels of certain essential fatty acids and their metabolites. To review the effects of polyunsaturated fatty acids for people with schizophrenia, study researchers updated the initial searches of 1998 and 2002 and included all randomised clinical trials of polyunsaturated fatty acid treatment for schizophrenia. Working independently, they then selected studies for quality assessment and extracted relevant data. When any dose omega-3 (E-EPA or EPA) is compared with placebo, small short trials suggest that the need for neuroleptics appears to be reduced for people using omega-3 supplementation, and mental state may improve (gaining 25% change in assessment scores). There are no differences in the number of people leaving the study early. When any dose omega 3 (E-EPA or EPA) is compared with any dose omega-3 (DHA) there is no clear difference for mental state outcome. When different doses of omega-3 (E-EPA) are compared with placebo there are no differences in measures of global and mental state between the studies. The new trials all compare the omega-3 polyunsaturated fatty acids, in particular eicosapentaenoic acid and its ester, ethyl-eicosapentaenoic acid. The use of omega-3 polyunsaturated fatty acids for schizophrenia still remains experimental but this review highlights positive trends and the need for large well designed, conducted and reported studies.

–Cochrane Database Syst Rev, 3, 2006

Magnesium Profile in Autism

The aim of the present study was to determine and compare plasma and erythrocyte concentrations of magnesium in 12 autistic children, 17 children with other autistic spectrum disorders, 5 girls with classic Rett syndrome, and 14 normal children of the same age. No differences in intracellular Mg were found between controls and pathological subjects; however, autistic children and children with other autistic spectrum disorders had significantly lower plasma concentrations of Mg than normals. Children with autistic spectrum disorders may require special magnesium-rich diet at an early age.

–Biol Trace Elem Res, 109(2): 97-104 2006

Acetyl-L-Carnitine vs. Amisulpride in the Treatment Of Dysthymia

The aim of this study was to evaluate of the effect of acetyl-L-carnitine (ALCAR) vs. amisulpride measured by total Hamilton Depression Rating Scale score (HAM-D) in patients with pure dysthymia. Two hundred and four patients were randomized and treated with ALCAR 500 mg twice a day or amisulpride 50 mg in a double-blind study, for 12 weeks. A solid improvement of HAM-D was observed in both treatment groups throughout the study. The results did not disclose statistically significant differences between treatments. The greater tolerability of ALCAR is of clinical relevance considering the chronicity of dysthymia, which often requires prolonged treatment.

–Eur Neuropsychopharmacol, 16(4): 281-7 2006

Now available!

TRIBUTE CARDS

•Acknowledge Special Occasions
•Commemorate Family Members and Friends

Make a donation to the

International Schizophrenia Foundation

Income tax receipts issued with a minimum donation of $10.00

Contact the ISF: centre@orthomed.org or phone 416 733 2117

BOOK REVIEW

The Brain Diet
Alan C. Logan, Martin, N.D.
Cumberland House Publishing, 2006
260 pages, hardcover

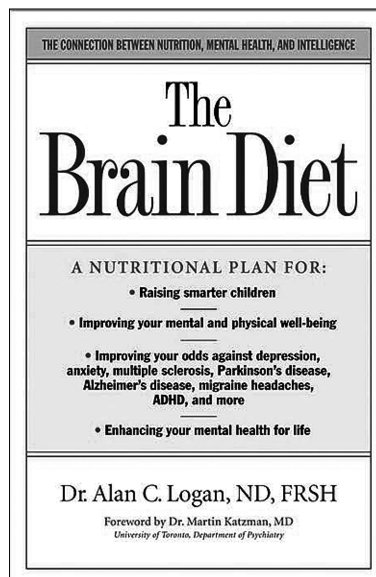
Alan Logan, N.D., a graduate of the State University of New York and the Canadian College of Naturopathic Medicine, is trained through Harvard's Mind-Body Medical Institute and Georgetown Medical School's Food as Medicine. With the eye of a naturopath, Logan has written *The Brain Diet,* an in-depth study of the relationship between diet and mental functioning.

Unless you are a doddering relic teaching metabolism in medical school, you probably know that nutrition and health are related. Poor nutrition plays a role in cardiovascular disease and cancer, but what about depression, anxiety, multiple sclerosis, Parkinson's and Alzheimer's diseases, or ADHD?

Our primeval food supply which hitherto sustained our health is today scarcely recognized by the body, and it is no surprise that today's epidemic of mental impairments has followed. Our age has witnessed a sea-change in the quality of macronutrients–the fats, protein and carbohydrates which form our daily sustenance– and industrialization has altered, over-refined and depleted the vital micronutrients (vitamins, minerals and trace elements) we need for health.

The Brain Diet aims to examine the foods we eat and introduce dietary strategies to keep an optimum mind and mood. From Dr. Logan's careful literature reviews, he believes the key to optimum brain function is to keep the focus on food, rather than supplement popping.

The Brain Diet goes beyond the basics in underscoring specific dietary concerns. The best dietary brain-protectors, in his estimation, are precisely what the average person is likely to lack: the omega-3 fatty acids found in seafood, whole grains, grass-fed beef, flax seeds, nut oils, and dark leafy greens, and the natural antioxidants which are abundant in colorful fruits and vegetables. We consume far too many saturated fats, trans-fats and omega-6-rich oil which are changing our brain chemistry, and not for the better. A healthy brain, however, is desperate for marine oil- derived EPA and DHA fatty acids, the forms used in our brain-cell membranes. We can also access nature's antioxidant power with the right choices. Dr. Logan recommends color, namely, the free-radical quenching blue, purple, red and yellow fruits and vegetables such as grapes, plums, blueberries, and eggplant whose pigments are proven protectors of brain health.



Unique to *The Brain Diet* is Dr. Logan's explanation of a little known dietary villain responsible for accelerated brain aging–the "advanced glycation end-products" or AGEs. These dietary substances are harmful because they promote undesirable "cross-linking" of proteins which form the structure of the body. This phenomenon is not unlike the tanning of leather, a broad molecular clumping and impairment that characterizes Alzheimer's disease. AGEs are created when proteins and sugars in foods combine under the influence of high, dry, extended heat such as broiling and frying. Foods of the fat group showed the highest amount of AGE content, but high values also occur in meat and soy protein foods. Carbohydrates contained the lowest values of AGEs, but even grain-based foods, when cooked in such a fashion (i.e. biscotti, toast or frozen waffles) become extremely high in AGEs. *The Brain Diet* recommends steaming or boiling to reduce cooking temperatures to blunt the AGE-assault on your brain.

In his chapter titled "Chewing the Right Fats", Dr. Logan advises readers to seek out fish high in omega-3 and low in omega-6 and mercury, but he points out that frequent consumption of farmed salmon, aside from its high levels of pro-inflammatory omega-6 fatty acids may also contain PCBs which are associated with impairments of memory and learning in older adults.

The chapter on "waist management" outlines how environmental toxins can influence mental health and even alter gene expression. For this reason Dr. Logan strongly advises that we consider foods and nutrients that help the liver, our major detoxification organ. Vegetables of the *Brassica* family along with green tea and lipoic acid help us to wash out harmful toxins.

There is much more to *The Brain Diet* than can be covered presently, but in brief, Dr. Logan recommends 5 servings of deeply colored fruits and vegetables every day, oily, low mercury fish at least three times per week and a reduction of red meat to a maximum of once per week. Additionally, we should shift our diet towards more omega-3 fatty acids such as organic canola oil or flaxseed, walnuts and their oils. Likewise, complex carbohydrates in brown rice, whole wheat pasta, whole grain cereals, and whole grain breads should displace the simple sugars in their white, refined and bleached counterparts. Food preparation is also important. We should boil, poach and steam instead of using high and dry cooking to limit AGEs consumption and, acquire a taste for anti-inflammatory and antioxidant culinary spices, herbs, and green teas.

The Brain Diet, rich with quantities of references and citations, is an informative book and an excellent resource for health professionals and the general public. Dr. Logan has solidly organized a complex array of medical research and translated it into a usable Brain Diet Action Plan that serves to promote brain function and total body health.

–Greg Schilhab