



Bio-Balance Newsletter

Bio-Balance Health Association Inc

A non-profit organisation dedicated to promoting effective techniques of biochemical treatment for mental, behavioural and autistic disorders.

March 2010

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Editor:
John Skelton

WALSH RESEARCH INSTITUTE SYDNEY OUTREACH CLINIC Patient Assessment & Treatment Program 3rd May – 11th May 2010

**Dr William Walsh PhD Dr Mary N Megson MD
Dr. James A Neubrandner MD Dr Albert Mensah MD**
For full details see Brochure attached to Newsletter

Bookings presently available for patients with
Behavioural disorders
Learning & attention disorders
Autism spectrum disorders
Depression
Post-natal depression
Schizophrenia
Bipolar disorder
Alzheimer's and Parkinson's Disease

**Bookings should be made as soon as possible
so prior testing, medical examination and lab results can be completed**

Information and Bookings: Marnie Lo – Outreach Co-ordinator
Phone: 02 80143295 E-mail: marnielo@aapt.net.au

Payments: Bio-Balance office Phone: 07 55157 142

SYDNEY OUTREACH CONFERENCE Saturday 8th May 2010

**Dr Mary Megson Dr William Walsh
Dr James Neubrandner Dr Albert Mensah**

RYDGES WORLD SQUARE HOTEL

From the President:

On behalf of all members of the Committee of Bio-Balance Health Association Inc. I would like to wish all our members a Happy and Healthy New Year.

I am writing this when we have 11 weeks to go to the beginning of the Outreach. It is a time when we are counting numbers - of patients, of doctors, and of payments received.

We are quietly confident, but as always, nervous as to whether we will manage to get our full complement of patients and new doctors to make it a worthwhile exercise for the experts from the USA to attend. Dr Walsh has a target of training 1000 doctors worldwide.

One very encouraging factor this year, which we hope will lead to more doctors attending the Outreach training in the coming years, is the appointment of Professor Pat McGorry as Australian of the Year. His latest research paper, presented at the World Psychiatry Conference on 31st January, was titled "Omega 3 Fish Oil tested as a preventative approach to Schizophrenia with positive results".

The other news is that Professor Kerryn Phelps is now Chairperson of the AIMA and has big plans to promote Integrative Medicine, so the future looks brighter for us all.

We look forward to meeting all members who will be attending the Outreach in May this year.

Judy Nicol

Epigenetic Alterations of DNA May Help Explain the Mystery of Schizophrenia and Other Psychiatric Illnesses

For the last 20 years, scientists have been looking feverishly for specific genes, or mutant versions of genes, whose presence in a person can be linked with greater statistical risk for developing major psychiatric illnesses. Genes called DISC-1 (for “disrupted in schizophrenia”) and neuregulin-1, for instance, are among several that have shown strong statistical correlations with risk for schizophrenia, and are widely presumed to have *some* causative role in at least some people who develop the illness.

But this is not to say that DISC-1 or neuregulin-1 *causes* schizophrenia. Like every other major neuropsychiatric illness, schizophrenia is a “complex disease,” not caused by inheritance of a single errant copy of a single gene. Many of the best scientists in the world find it reasonable to believe that schizophrenia, bipolar disorder, autism, and other psychiatric illnesses with a known genetic component are the product of some as yet unknown interaction of several genes and the environment (the latter encompassing a vast range of physical, social, and cultural exposures and influences). That view, however, is coming under scrutiny, as other contributing factors, including chemical alterations of DNA, are studied.

What Twins Teach Us About Schizophrenia

Arturas Petronis, M.D., Ph.D., is among the leaders in the search for alternative accounts of causality. He has been thinking about the problem of causation in mental illness throughout his career in medicine. When NARSAD first funded his lab — and it has done so on three subsequent occasions — it enabled him to embark on a variation of a classic study. He wanted to look at sets of identical twins and examine the incidence of schizophrenia through a special conceptual lens, an approach called epigenetics.

“The remarkable fact about monozygotic, or identical, twins, which has been known for many decades, is that in spite of their identical genomes, one sibling can develop a serious illness like schizophrenia while the other does not,” says Dr. Petronis, who is head of the Krembil Family Epigenetics Laboratory at the Centre for Addiction and Mental Health and Associate Professor at the University of Toronto.

If the cause of schizophrenia is genetic, how can two people with precisely the same sequence of 3 billion DNA “letters” — the same letters, placed in the precisely the same order — suffer such different fates? “In science, we say that in such cases, the *genotype*, or genetic code, is identical; but the *phenotype* — the way that the genome expresses itself in each individual — is different,” Dr. Petronis explains.

The question that has driven his career, since he arrived in Canada from his native Lithuania in 1991, when the Soviet Union collapsed, is: what happens to a given genome, or even a small section of one, that makes it issue different directions to cells of the body — directions which have at least some bearing on whether that body is in a state of health or illness?

“NARSAD came into my life when I began to study this question, and the situation was very difficult,” Dr. Petronis remembers. “I didn’t have any dedicated sponsors initially, and then, every few years I would come to a point where I’d say, ‘Either I get a grant to continue, or I wrap up and change my focus. It was phenomenal. Each one of those grants was like an injection of enthusiasm into our work, for which I cannot thank NARSAD enough.”

Changes That Turn Genes ‘Up’ and ‘Down’

There are all sorts of things that can happen to two identical stretches of DNA in two individuals that will result in differences in the way genes in each person direct cells to manufacture proteins — the basis of all structural and functional aspects of life. Many of the changes affect the process by which genes are “transcribed” into RNA “messenger” molecules that command the ribosomes in cells to make proteins. Many things can happen to these “messenger-RNAs” while they are being spliced together and after they are produced, which alter them, and which can alter gene expression.

Many other things can happen to molecules in the DNA double helix that can have the effect of “turning up” or “turning down” genes, somewhat like the volume on a TV remote control. One is the attachment of a molecule called a methyl group to one of the “bases” in the chain of linked molecules in the spiraling DNA “staircase”. This is called methylation, and it is extremely commonplace. Methylation does not change the *sequence* of DNA “letters,” but does affect the structural and chemical *configuration* of the DNA, and also the intensity with which genes are expressed. The total set of such changes, over the entire genome, is called the genome’s epigenetic profile, or epigenome.

Some epigenetic events are normal, while others are not. But in either case, epigenetics adds a remarkable dimension of complexity to the problem of disease causation. At any given moment, some of the genes in our bodies are undergoing epigenetic changes. Some of these are fleeting, and some are with us always, having been inherited from our parents. As opposed to the human genome — which is very stable throughout our lives — the epigenome

varies within individuals over time, *and* from individual to individual across the population. Indeed, even within families. Hence, the phenomenon of the identical twins, only one of whom has schizophrenia: genetically the same, but expressing their genes differently.

A Pioneering Epigenetics Study

Genes like DISC-1 are important because they have been associated with schizophrenia risk; yet they have “not given us a single solid finding that we are able to use today in clinical practice,” Dr. Petronis notes. For this reason, he is not devoting his research to the search for additional “risk-genes,” which depend on identification of variations in DNA sequence. Rather, he, with NARSAD’s backing, is exploring the alternative hypothesis that “some part of the heritability” of schizophrenia, bipolar disorder and other psychiatric illnesses “is due to epigenetic factors.”

Working with 150 post-mortem brain slices and other tissues taken from people affected by schizophrenia and from controls, the Petronis lab has just completed a gruelling, multiyear study. “It’s the first, we believe, that looks at epigenetic changes across the human genome in the context of a psychiatric illness.”

The difficulties of the project are mind-boggling. For each of the 150 samples, 12,000 spots on the epigenome were examined at the molecular level — the level at which it was possible to see where methyl molecules have attached to the DNA double-helix; and where proteins called histones are chemically modified, also altering gene expression. The histones, assembled in groups of eight, are the structural “spools” around which strands of DNA wrap themselves for dense packaging into the genome’s 23 chromosomes.

“We ended up with several dozen loci in the genome where we were able to find epigenetic differences between the two groups,” Dr. Petronis reports. “This suggests to us that DNA methylation changes are important to the etiology of schizophrenia and bipolar disorder, which we have known for years, clinically, overlaps with schizophrenia in terms of family inheritance patterns. We can now try this over the full length of the human genome — a project that would involve comparisons at some 40 million spots. In this way we can test the hypothesis that a small number of key elements, which are epigenetically inherited, as well as acquired epigenetic misregulation, can explain a large number of clinical, epidemiological and molecular findings — the kind of features that make ‘complex’ genetic diseases complex.”

“The point is not about the presence or absence of epigenetic factors in the context of disease,” Dr. Petronis stresses. “Epigenetic changes are critical for normal function of the

cell. We are talking specifically about *misregulation*, and about measuring the quantities of changes between affected individuals and controls, to get to the bottom of this.”

www.narsad.org

Research Profiles

Marion Redstone Memorial Fund

Tax-deductible donations to the Fund are dedicated exclusively to assisting patients and families to meet the costs, either in whole or in part, of attending a Walsh Research Institute Sydney Outreach Clinic in cases where their financial circumstances would otherwise preclude them from doing so.

The Fund, established only last year, has already enabled a number of patients to benefit from attending the Outreach Clinic.

You are invited to make a tax-deductible donation by cheque, money order or credit card to Bio-Balance Health Association Inc. Marion Redstone Memorial Fund.

Inquiries: 07 5538 7203

BIOCHEMISTRY AND BEHAVIOUR William J Walsh PhD

[NOTE: Following is the text of an address by Dr Walsh to the Nutrition for Optimal Health Association (NOHA) in Chicago in 1994. Its content is as relevant in Australia today as it was in the USA then. Dr Walsh was then Scientific Director of the Pfeiffer Treatment Center. He is now Director of the Walsh Research Institute.]

The societal problems of delinquency, crime, and violence have steadily worsened throughout our nation's history. Most of us carefully lock our doors at night for a very good reason: The United States of America leads the world in per capita rates of murder, assault, rape, and most other violent crimes.

We spend billions of dollars each year on law enforcement and the criminal justice system. We have tripled our prison population in the last 15 years, and more than one million Americans are now incarcerated. In most states, funds badly needed for education and health care are

diverted to prison construction projects. Despite this great public sacrifice, progress seems to occur at glacial speed (inches per century). In fact, violent crime rates are higher today than 15 years ago. Our nation's report card for this subject should read "A for effort, F for accomplishment."

The basic problem is two-fold. First, we do not understand why some children become violent criminals and others do not. Second, we do not know how to reform or rehabilitate the former once they start breaking the law.

Sometimes the greatest barrier to scientific progress is not lack of knowledge, but prevailing beliefs that are not true. Astronomy was stalled for centuries by the conviction that the earth was the centre of the universe. Galileo and Copernicus were ridiculed and persecuted for correcting this error. Geography and geology were delayed for centuries by the belief that the world was flat. Chemistry was hindered by the phlogiston theory, in which a nonexistent element was erroneously believed to enable burning. Physics was delayed for decades by the "plum pudding" theory of atomic structure. In each of these cases, progress virtually stopped because of a consensus belief in something that was not true.

We can now add criminology to the list of sciences stalled by a false belief. In this case, the error is a misguided conviction that violent criminals are created by flawed life circumstances such as poverty, child abuse, bad parenting, and broken homes. This is a nice theory, but time is proving it to be wrong. Unfortunately, most therapists and behavioural researchers devoutly believe in this concept and therefore provide the wrong treatments or follow fruitless lines of research. Until this error is corrected, behaviour-disordered children will continue to grow up to be criminals and our nation's horrific rate of crime and violence will persist.

In nearly 20 years of volunteer work in prisons and ex-offender programs, I was closely associated with hundreds of persons who had committed violent crimes. Most of them had a history of assaultive behaviour dating back to early childhood. There were many cases of violent criminals who had wonderful parents and siblings who were productive law-abiding citizens. (Richard Speck is a good example.) Their families told me that these future criminals seemed "different" from the day they were born and had resisted all attempts by the family to love and nurture them. The families spoke of children who started to lie as soon as they learned to talk, became assaultive by age 3, tortured family pets, and were completely oppositional and disobedient by age 4. Many of the criminals had had counselling and psychotherapy before kindergarten, drug medications by age 6, hospitalisation by age 9,

and incarceration by age 12. The families reported that physical punishment was completely ineffective, as was behaviour modification. I met parents who believed that their children were possessed and had tried exorcism. I learned that the parent of a criminal is often a parent with a broken heart.

Many of my criminal associates were very intelligent and had searched for the reasons why their lives had turned out so badly. A habitual sociopath once told me over breakfast that he had absolutely no caring impulse or feeling for other human beings. He pointed to a little girl crossing a Chicago street and said that if she were hit by a bus and crushed, he would feel nothing and would just keep on eating his scrambled eggs. He expressed his desire to love his parents and to fall in love with a woman, but said that was impossible--because he just "felt nothing." He had been like that his entire life. A close friend of mine (once a black gang leader) told me that he hoped that science would someday find out what had transformed him from a little baby into a monster. In some ways, the criminals appeared to have a better understanding of their problem than the criminologists who had spent a lifetime studying them. It seems highly significant to me that the most common tattoo I saw in Stateville prison was "born to raise hell."

The reality is that most children with terrible behaviour were born with chemical imbalances that predispose them to this conduct. Flawed life circumstances can aggravate this condition, but with many the underlying cause is bad chemistry. If imbalances are mild, terrific parenting and counselling may save the day. However, if an imbalance is severe, behaviour problems cannot be loved away or overcome with competent parenting. The imbalance itself must be addressed.

The Carl Pfeiffer Treatment Center in Naperville, Illinois, is dedicated to helping families effectively cope with behaviour disorders in their children. Our focus is on biochemical treatment aimed at the very chemical imbalances that are usually at the root of a behaviour problem. The key lies in identification of the specific biochemical abnormality present.

Thousands of behaviour-disordered children have been studied at the Center. The most common imbalances are metal-metabolism disorders, toxic overloads, a disorder of haemoglobin synthesis, nutrient malabsorption, and an overload or deficiency of methionine. Treatments consist of specific vitamins, minerals, and amino acids targeted at balancing body chemistry. This is a fairly complex medical procedure that requires a partnership of biochemists and medical doctors.

Recently at our clinic, I met a dedicated, competent, loving mother who had adopted an infant abandoned at birth. Her four-year-old son is completely oppositional and defiant, has tortured and killed two family pets, and is beginning to harm other children in the neighbourhood. Recently she found him searching through the dishwasher. He said he was looking for a knife so he could kill his baby sister. The mother has three older adopted children, who are very well behaved and are good students. Two years of counselling, behaviour modification, and drug medications have not helped. His present medication is thorazine and his psychiatrist now recommends long-term residential care. Our laboratory testing revealed this child to have severe imbalances and his new drug-free treatment will begin next week. We expect that his behaviour will become quite normal within three months.

Children with mild temper tantrums often have the same chemical imbalances as those with assaultive rages. However, chemical imbalances are usually much less intense for mild behaviour disorders. Our success rates, based on longitudinal progress reports from thousands of parents, appear to be very high for both groups. We plan to conduct double-blind studies in the near future to better define treatment effectiveness rates. So far we have found that treatment success rates are highest for young children, with a sharp decline in efficacy during teenage years. We believe that drugs, alcohol, and a continually worsening self-image are responsible for this effect. Our clinic continues to grow rapidly and our waiting list exceeds two thousand applicants from throughout the USA.

If present crime rates persist, more than a million American children (ages 12 and younger) alive today will eventually wind up in prison. This problem will not be solved by getting tough with criminals or building more prisons. The only hope lies in early identification of severe behaviour disorders, followed by effective treatment.

*Just want to say thank you so much for encouraging us to go to Outreach. I believe that it's one of the best steps towards healing we've taken so far. Both Dr Megson and Dr Walsh were fantastic with loads of input and suggestions for us both. We would not have done it without your wonderful support, explanations and follow up. Can't thank you enough.
Mrs. H.N, NSW*

Faulty 'wiring' in the Brain triggers onset of Schizophrenia

A new study by researchers at the Institute of Psychiatry (IoP), King's College London has discovered abnormalities in the white matter of the brain that seem to be critical for the timing of schizophrenia. The study, led by Professor Phillip McGuire and Dr Sophia Frangou, was published in the *British Journal of Psychiatry* in October 2009.

The white matter of the brain consists of nerve fibres that connect parts of the brain and help regulate behaviour. The normal brain develops in a back to front fashion, i.e. posterior regions mature first and the frontal lobes last. The research discovered that if there are very severe deficits in the white matter in these posterior (specifically parietal) regions, then schizophrenia develops early in adolescence. As people grow older their deficits "migrate" in a back to front manner and in adulthood, they impact the frontal lobes of the brain quite dramatically.

Professor McGuire comments: 'Although we can trace the origins of schizophrenia to early brain development we still do not know what triggers the onset of the full-blown symptoms. Our study suggests that at least part of the answer lies in problems affecting the "wiring" of key brain areas.'

The team used Diffusion Tensor Imaging, a state-of-the-art neuro-imaging technique, to examine white matter connections in adolescents and adults with schizophrenia.

Abnormalities in white matter appeared first in posterior parts of the brain in the younger patients and became more prominent in the frontal lobes in adult patients. In interpreting the results, Dr. Kyriakopoulos, the lead author, explained that the scans capture the interaction between brain development and disease mechanisms.

Dr Frangou commented on the value of this research: 'We believe this study is unique as it approaches schizophrenia research from a new perspective. It takes a life-long view on schizophrenia and thereby bridges traditional barriers between child and adult patients.'

The study adds new insight to mounting evidence that abnormalities in white matter play a critical role in what turns schizophrenia on and may provide clues to new treatments.

Review
**Nutritional therapies
for mental disorders**

Shaheen Lakhan & Karen F Vieira

Nutrition Journal 2008, **7**:

Abstract

According to the Diagnostic and Statistical Manual of Mental Disorders, 4 out of the 10 leading causes of disability in the US and other developed countries are mental disorders. Major depression, bipolar disorder, schizophrenia, and obsessive-compulsive disorder (OCD) are among the most common mental disorders that currently plague numerous countries and have varying incidence rates from 26 percent in America to 4 percent in China. Though some of this difference may be attributable to the manner in which individual healthcare providers diagnose mental disorders, this noticeable distribution can be also explained by studies which show that a lack of certain dietary nutrients contribute to the development of mental disorders. Notably, essential vitamins, minerals, and omega-3 fatty acids are often deficient in the general population in America and other developed countries; and are exceptionally deficient in patients suffering from mental disorders.

Studies have shown that daily supplements of vital nutrients often effectively reduce patients' symptoms. Supplements that contain amino acids also reduce symptoms, because they are converted to neurotransmitters that alleviate depression and other mental disorders. Based on emerging scientific evidence, this form of nutritional supplement treatment may be appropriate for controlling major depression, bipolar disorder, schizophrenia and anxiety disorders, eating disorders, attention deficit disorder/attention deficit hyperactivity disorder (ADD/ADHD), addiction, and autism.

The aim of this manuscript is to emphasize which dietary supplements can aid the treatment of the four most common mental disorders currently affecting America and other developed countries: major depression, bipolar disorder, schizophrenia, and obsessive compulsive disorder (OCD).

Most antidepressants and other prescription drugs cause severe side effects, which usually discourage patients from taking their medications. Such noncompliant patients who have mental disorders are at a higher risk for committing suicide or being institutionalized. One way for psychiatrists to overcome this noncompliance is to educate themselves about

alternative or complementary nutritional treatments.

Although in the cases of certain nutrients, further research needs to be done to determine the best recommended doses of most nutritional supplements, psychiatrists can recommend doses of dietary supplements based on previous and current efficacious studies and

then adjust the doses based on the results obtained.

[NOTE: This important article, which includes detailed lists of peer-reviewed studies - many of them double-blind and placebo controlled - of nutritional supplement treatments for major depression, bipolar disorder, schizophrenia and obsessive-compulsive disorder, can be read in full on the Bio-Balance website at <http://www.biobalance.org.au/articles>]

Some important recent additions to the Articles page of our website -

<http://www.biobalance.org.au/articles>:

- ◆ **Targeted Nutritional Treatment of Mental Illness** – Presentation by Dr Richard Stuckey at May 2009 Sydney Outreach Conference
- ◆ **Nexus Magazine (USA) interview with Dr William Walsh**
- ◆ **Oxidative Stress in Autism Spectrum Disorders** – Presentation by William J Walsh PhD at Toronto Conference October 2009
- ◆ **Nutritional Therapies for Mental Disorders** (Review article) - *Nutrition Journal* 2008 Volume 7 [see below]
- ◆ **Discerning the Mauve Factor – Parts 1 & 2:** Woody R McGinniss, William J Walsh et al – *Alternative Therapies Journal* 2008 Volume 14
- ◆ **Gut & Psychology Syndrome** – Natasha Campbell-McBride
- ◆ **Suggested Reading**

Some books worth reading:

Mental & Elemental Nutrients: A physician's guide to nutrition & health care – Carl Pfeiffer (Keats Publishing)

The Healing Nutrients Within: Facts, findings & new research on amino acids – Eric Braverman (Keats Publishing)

Zinc & Other Micro-Nutrients – Carl Pfeiffer (Keats Publishing)

Natural Healing for Schizophrenia – Eva Edelman (Borage Books)

Optimum Nutrition for the Mind – Patrick Holford (Piatkus Publishing)

Fats That Heal, Fats That Kill – Udo Erasmus (Alive Books)

Epigenetic marks a clue to multiple functions of the brain

A team of Johns Hopkins scientists has catalogued chemical tags attached to more than 800 genes from 76 human brain samples and collected the first evidence of how these special, inherited epigenetic "marks" might account for different brain functions. The results appear in the American Journal of Human Genetics.

"It's quite remarkable how clear the differences are and a bit surprising, because the genes we looked at weren't necessarily known to be brain function genes," says Andrew Feinberg, M.D., professor of medicine, oncology and molecular biology and genetics and director of the Center for Epigenetics at Hopkins.

"It makes sense that different geographic regions of the brain, because they're responsible for a range of operations from memory to motor control, would be using different genes," he says, "but we think this is the first evidence that specific brain functions, carried out by specific genes, may be determined by their epigenetic signatures."

The signatures at play are known as methyl groups (particular combinations of a carbon and three hydrogen molecules), which can attach directly to the basic component of all genes, DNA.

Proper DNA methylation is required for normal development, gene function and overall genome

stability, and disruption of methylation has long been linked to cancer and brain diseases.

"Because disruption in DNA methylation causes Rett syndrome, which leads to severe mental retardation and motor dysfunction, we suspected that methylation itself might be important in normal brain development," says James Potash, M.D., M.P.H, associate professor of psychiatry at Hopkins.

The group then began cataloguing the methylation sites on or around genes taken from the cerebral cortex, integral to higher thought processes; the cerebellum, central to motor control; and the pons, which acts as a relay station in the brain stem. These brain regions are widely different in their location and makeup. They compared DNA from different parts of each brain sample using a gene chip that tested more than 1,500 sites in the genome to determine which were methylated.

"What we found were striking differences in DNA methylation depending on where we looked," says Fein berg.

Specific patterns of methylation were related to brain region and were unrelated to age, gender or cause of death.

"What's really interesting about this work is that epigenetic probably helps control the development of one cell type from another," says Potash. "This study raises the possibility that errors in development might underlie brain diseases such as bipolar disorder, autism, major depression and schizophrenia."

The research was funded by the U.S. National Institutes of Health.

Health Insurance to leave hospital



Cartoon by Nicholson from "The Australian" newspaper:

www.nicholsoncartoons.com.au

The Links Between Diet and Behaviour

The influence of nutrition on mental health

A significant contributor to the increasing rate of crime, aggression, depression and poor school performance is poor nutrition. That's the conclusion of the inquiry held by the UK Parliamentary Food and Health Forum, who issued a report urging for government to fund a campaign to research, increase awareness, and encourage people to eat more fish and whole foods, high in essential fats, vitamins and minerals.

The Parliamentary Food and Health Forum want more money spent on researching the link between diet, nutritional supplements and mental health; doctors to be better educated; mental health patients to be checked for nutritional deficiencies as a first line procedure on the UK National Health Scheme; and government funded healthy breakfast clubs at schools; government campaigns promoting the importance of optimum nutrition for mental health.

Patrick Holford, director of the educational charity, Food for the Brain says: "Less than half a percent of all money for medical research is spent on nutrition largely because there are no patented, profitable drugs at the end of it. Most doctors today have virtually no training in this area and simply don't know that improving diet and supplementing specific nutrients often works as well, if not better than drugs for treating depression and mental illness. We welcome this report, which fairly and squarely recommends that government should put more money where our mouths are."

"We desperately need funding to follow through on extremely promising preliminary studies that suggest that optimum nutrition can improve behaviour, academic performance and reverse symptoms of depression and even schizophrenia". The Food for the Brain website, www.foodforthebrain.org provides free on-line advice for those with mental health concerns.

"Our results are extremely encouraging." says Mary-Ann Munford, former NHS Primary Care Trust CEO, now director of the charity's outpatient clinic, the Brain Bio Centre in London, which is pioneering nutrition-based treatments for ADHD, depression, schizophrenia and dementia. "I'm convinced

that an optimum nutrition approach is a vital, and often ignored, piece of the equation for reversing most of the prevalent mental health disorders GPs see on a daily basis."

Recent research has reported that:

- Children with learning and behaviour problems improve focus, concentration and school grades when given essential fat supplements; and IQ scores when given multivitamins.
- Eating breakfast and a low glycemic load (GL) diet, low in sugar, improve behaviour and concentration.
- Supplementing essential fats improves depression.
- Supplementing B vitamins improves depression and symptoms of schizophrenia, and stops or slows down memory decline in older people.

"Optimum nutrition is a forgotten factor in mental health today" says Professor David Smith, chair of the Scientific Advisory Board of the Food for the Brain Foundation and Emeritus Professor at Oxford University.

The Associate Parliamentary Food and Health Forum launched this report following a year-long inquiry into the links between diet, mental health and behaviour.

To download the report by the Associate Parliamentary Food and Health Forum, go to www.foodforthebrain.org

Epigenetics

For readers wishing to follow this topic further and to explore its implications for mental, behavioural and autistic disorders, the following articles should be of interest:

Rewriting Darwin: The new non-genetic inheritance (www.newscientist.com)

Why Your DNA Isn't Your Destiny (www.time.com)

Brain Health: Nutrition & Epigenetics (itsnotmental.blogspot.com)

Epigenetics: What is it and why it is important to mental disease [British Medical Bulletin] (bmb.oxfordjournals.org/cgi/reprint/Idn004v1)

MEMBERSHIP APPLICATION FORM



New membership
Renewal

Bio-Balance Health Association Inc.
PO Box 7795 GCMC 4217
Phone: 07 5538 7203 Fax: 07 5538 4599
E-mail: biobalance@optusnet.com.au
Website: www.biobalance.org.au

To join or renew your Bio-Balance Health Association membership
please return completed form to:
Bio-Balance Health Association, PO Box 7795, Gold Coast Mail Centre, Qld, 4217

Annual Membership Fee \$5.00 (including GST)

Last Name:.....GivenName.....(Dr/Mr/Mrs/Ms/Miss).....

Address:.....

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E-mail:.....

(Newsletters will be sent by email to this address)

Membership Fee Enclosed \$.....

Donation \$.....

Total \$.....

*Gifts of \$2 or more are allowable deductions
to donors under the provisions of Section 30-45,
Item 4.1.1 of the ITAA 1997*