

Hypoglycemia – Is It A ‘Cure All’ for Mental Illness?

 www.hypoglycemia.asn.au/2011/hypoglycemia-is-it-a-cure-all-for-mental-illness/

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The Hypoglycemic Diet has often been dismissed as a ‘one-fit-fits-all’, remedy for depression. This appears to please the pundits who wants to emphasize the complexity of depression. Such labels have seldom been used to describe therapy by single or even multiple drugs, such as the mantra that “**it is all in the mind**”.

Thus we need to consider how a hypoglycemic diet compares with other more conventional therapies.

If depression is caused by any of the multitude of medical conditions that has depression as a comorbid condition, then the hypoglycemic diet cannot be considered a ‘cure-all’ for these conditions, but could perhaps improve symptoms. Such diseases as hypothyroidism, hyperthyroidism, fibromyalgia, coeliac disease, ulcerative colitis, peptic ulcers, Crohn’s disease, food sensitivities and allergies, heavy metal intoxication, arthritis, rheumatoid arthritis, bipolar disorder and schizophrenia to name just a few, need medical attention. There are many other medical diseases associated with depression. See: [Silent Diseases and Mood Disorders](#)

Psychiatric Presentations of Medical Illness by [Ronald Diamoind MD](#)

Thus in certain forms of depression, as occurs in Bipolar Disorder and Schizophrenia, the administration of drugs may be inevitable, although it could be combined with the hypoglycemic diet to improve symptoms.

Neither would it apply to ‘environmental’ depression, brought about by grieving, divorce, rejection by loved-one or any other type of trauma resulting in depressive symptoms. Here environmental stressors cause stress hormone to interfere with the synthesis of neurotransmitters – our ‘feel-good’ hormones. This could cause ‘**environmental**’ depression. [Strickland PL et als. \(2002\)](#)

When the environmental stress has been removed or a person recovers from grieving, the body soon starts to produce the ‘happy’ neurotransmitters again, and life seems to go back to normal.

It is when a person does not recover from depression – let us say in six months after the trauma – that we have to consider a diagnosis ‘**endogenous**’ depression. Most of the time a depressed person in the absence of environmental stressors doesn’t understand fully why he/she is depressed, which is one of the criteria that brings him to a therapist.

Most depressed people, when they attend their first interview with a therapist, are offered a choice of only either drug therapy and/or psychotherapy.

It is logical that if depression has a physiological basis that drug therapy is a reasonable option, especially, if the depression is very acute. But it is also generally accepted that drug therapy does not seem to address the underlying biochemical disorder, seen as being responsible for depression. In some quarters serious questions are being raised as to the effectiveness of drugs. See: [Effects of SSRIs](#)

Many switch from one drug to another in an attempt to find a better solution to their problems. This could well be because biochemical imbalances are not necessarily the cause, but should rather be seen as symptoms of mental illness.

As an alternative or in addition patients are offered a course in psychotherapy, on the assumption that depression is really due to a person being engaged in negative thoughts and attitudes, that can be altered by a series of psychological counselling sessions. It is assumed that the causes of depression can be removed by changing a

person's attitudes and beliefs and confronting irrational thoughts and negative thinking styles by for instance Rational Cognitive Behaviour Therapy (RCBT). It is believed the patient can then safely withdraw from drugs and lead a more normal life. One important question remains unanswered; how can talk therapy 'cure', what is basically a physical disease? In other words psychotherapy can be very effective if the physiological aspects of mood disorders have been eliminated prior to talk-therapy.

No doubt there will be ample evidence in support of this approach. But the reality is that for many if not most depressed patients either drug therapy and/or psychotherapy simply does not work.

We need to find a solution for this sub-category of patients.

One alternative is to use 'natural' remedies, such as St John's wort, tryptophan, 5-HTP, DHEA,, and many nutritional supplements such as L-tyrosine, vitamin C, B-complex vitamins, Ginkgo biloba, kava and many others that have by some studies proven to be beneficial to depressed people.

Natural remedies used as drugs, like their pharmaceutical counterparts, have about the same success rate (or perhaps less) as drug therapy, except that 'natural remedies' are milder and have fewer side-effects.

There seems to be very good biochemical reasons why these remedies have shown to be so unsuccessful in treating endogenous depression.

These treatments are what I call "one single bullet' remedies. Drugs try to target certain biochemical imbalances in serotonin and norepinephrine production, by inhibiting the reuptake of these neuro chemicals. This causes an increase in these chemicals in the brain. St John's wort works in the same manner and thus operates as herbal SSRI. Thus they aim at specific faulty biochemical mechanisms.

A very well-documented natural antidepressant remedy is SAM-e (S-adenosylmethionine). This chemical, that can be bought as a supplement, is naturally produced in the body from [methionine](#) – an essential amino acid – if combined with a molecule of energy – [ATP](#) (Adenosine triphosphate).

Its antidepressant activity is due to the fact that it contains a methyl group (CH₃), which when donated to another chemical, alters its shape and function. [Methylation](#) is important in the synthesis of neurotransmitters such as serotonin and norepinephrine, well-known mood regulators. Yet, apart from the fact that it is very expensive, many people do not benefit from SAM-e, again because it is one of those '**single bullet**' remedies, that may miss the biochemical target, responsible for depression.

SAM-e is converted to homocysteine, a substance that in excess, has been associated with a greater risk of cardiovascular diseases. It needs to be converted either to cysteine – and form part of an important antioxidant enzyme – with the help of vitamin B6. Or it can be reconverted back into methionine, with the help of vitamin B12 and folic acid or trimethylglycine (betaine contained in choline).

Thus a person using SAM-e has to have a fairly healthy diet to start off with to benefit from SAM-e.

But there are many other nutritional supplements that could dispel depression. Serotonin is produced from [tryptophan](#) (found in food) with the help of [vitamin B6](#) and [magnesium](#). Thus a deficiency of tryptophan due to a low protein diet (high junk food diet) could cause depression. What happens if we are deficient in B3, B6, zinc, Vitamin D and magnesium and others that are all required in serotonin synthesis??

The biochemistry of depression is far more complex than can be handled by 'single bullet' remedies. Vitamin B6, as with all other vitamins and minerals, plays a major role in biochemical reactions. Nutritional and biochemical imbalances could cause havoc with our health and mind.

For example, vitamin B6 must be converted to an active form called pyridoxal-5-phosphate (P5P), before the body

can use it in chemical reactions. The enzyme responsible for this conversion (pyridoxal kinase) is zinc dependent. And zinc absorption in turn depends on ample supply of the biological active form of vitamin B6. This is because zinc is absorbed in combination with picolinic acid, produced in the pancreas from tryptophan with P5P (vitamin B6) as a coenzyme. See also [Eric R. Braverman, M.D., et als, page 56](#)

When people use SSRI drugs for depression, the body stops producing natural neurotransmitters of its own. This is done by inactivating the very same enzyme that converts vitamin B6 to P5P. Hence in the absence of active B6 natural synthesis of serotonin is interrupted. Because serotonin is also involved with appetite regulation, this could explain why many AD medications have weight gain or loss of appetite as a side effect.

There are other nutrients, deficiency of which are directly responsible for depression. If vitamin B3 (niacin) is deficient, the body will use tryptophan to synthesize B3 at the rate of 60 to 1, leaving little for serotonin production. Niacin supplementation has miraculously cured depression in some people. Some people just happen to have a high requirement for niacin.

There are other nutrients and non-nutrients too numerous to mention here that affect depression and mental illness. See [Werbach Page 123](#).

And then consider that all these chemical reactions need energy in the form of ATP. With inadequate amounts of ATP, the body cannot produce SAM-e, nor can it convert vitamin B6 to its biological active form, all requiring ATP. (There are several forms of B6.

An active healthy cell uses 2 million molecules of ATP per second to energize the biochemical machinery of a cell. And ATP is the end-product of glucose metabolism (glycolysis) ultimately derived from food. Thus people with insulin resistance (hypoglycemia) are unlikely to produce adequate amounts of SAM-e or P5P and others, all essential in the synthesis of neurotransmitters..

The brain, representing only two percent of the body, requires 75 per cent of all available glucose (ATP) in the body as its only source of energy AT ALL TIME, whether asleep or awake. ([Stryer Page 438](#)). Thus unstable and wildly fluctuating blood sugar levels to the brain would have unforeseen 'psychological' consequences. Erratic supply of biological energy to the brain causes it to send stress hormones to the adrenal glands in the form of adrenaline and cortisol in an attempt to rebalance energy supply. These internally driven stress hormones – produced in excess – are seen as the symptoms for depression, anxiety attacks and other abnormal psychological experiences.

Having regard to the complexity of the biochemistry of mental illness, it is obvious that the 'single bullet' remedies in the form of either single drugs or nutrients is bound to fail in the majority of cases. In fact, these 'single bullets' may be expected to further disturb the delicate interplay and equilibrium among biochemicals in the body.

What is needed is NOT '**single bullets**' but a '**shotgun**' remedy supplying all the bullets that will target biochemical abnormalities.

Such a remedy could well be the [Hypoglycemic Diet](#) containing high density nutrients in protein sources – chicken, eggs, meat and animal fats. This diet can be defined as a NATURAL diet, supplying all the necessary ingredients for the body to manufacture the right neurotransmitters. It is specially adapted to overcome unstable blood sugar levels-common among depressed people – as well as erratic insulin and stress hormones. This diet does not conflict with drug therapy and may even overcome some of their side effects.

The human body is a complex and very adaptive system. It will adapt to a toxic environment given the time, but when it exceeds the boundaries of tolerance, the body will inevitably break down. The most sensitive organ – **the brain** – will be the first to suffer the effects. But also given the time it will readapt to a healthy nutritional environment that will restore the balance nature intended for living creatures on earth.

The body appears to be wiser than the brain and will choose and pick those ingredients from the environment best

suited to its needs. A natural diet will restore both physical and mental health and over time will make drugs superfluous for our happiness.

One may wonder after all whether the hypoglycemic diet – unlike the simplistic remedies on the market – could be seen indeed as an ‘one-fit-fits-all’ remedy for mental illness. Perhaps it may not be a ‘cure-all’, but ‘cure-many’ remedy.

At least it is food for thought.

Please discuss this article with your health care worker, doctor or nutritional doctor or therapist

Stryer,Lubert (1988), BIOCHEMISTRY, WH Freeman and Co, NY

See also:

[Index to Specific Topics and Research](#)

[References to Mood Disorders and Nutrition](#)

[The Hypoglycemic Diet](#)

[Hit or Miss Supplements for depression](#)

[Depression: a disease of energy production.](#)

[The Serotonin Connection](#)

Reference:

Werbach,M.R.(1991), NUTRITIONAL INFLUENCES ON MENTAL ILLNESS, Third Line Pres,Inc.,Tarzana,Cal.