



Naturopathic View of Depression

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Topics

- Depression
- Naturopathic Medicine
- Specific Treatment Modalities
- Issues with research in Naturopathic Medicine

DSM IV Diagnostic Criteria for Major Depressive Episode¹

A. Five (or more) of the following symptoms have been present during the same 2-week period and represent a change from previous functioning; at least one of the symptoms is either (1) depressed mood or (2) loss of interest or pleasure.

Note: Do not include symptoms that are clearly due to a general medical condition, or mood-incongruent delusions or hallucinations.

(1) *depressed mood most of the day, nearly every day*, as indicated by either subjective report (e.g., feels sad or empty) or observation made by others (e.g., appears tearful). Note: In children and adolescents, can be irritable mood.

(2) *markedly diminished interest or pleasure in all, or almost all, activities most of the day, nearly every day* (as indicated by either subjective account or observation made by others)

(3) *significant weight loss when not dieting or weight gain* (e.g., a change of more than 5% of body weight in a month), or decrease or increase in appetite nearly every day. Note: In children, consider failure to make expected weight gains.

(4) *insomnia or hypersomnia* nearly every day

(5) *psychomotor agitation or retardation nearly every day* (observable by others, not merely subjective feelings of restlessness or being slowed down)

(6) *fatigue or loss of energy* nearly every day

(7) *feelings of worthlessness or excessive or inappropriate guilt* (which may be delusional) nearly every day (not merely self-reproach or guilt about being sick)

(8) *diminished ability to think or concentrate, or indecisiveness, nearly every day* (either by subjective account or as observed by others)

(9) *recurrent thoughts of death* (not just fear of dying), *recurrent suicidal ideation* without a specific plan, or *a suicide attempt or a specific plan* for committing suicide

DSM IV Diagnostic Criteria for Major Depressive Episode (cont.)

- B. The symptoms do not meet criteria for a Mixed Episode.
- C. The symptoms cause clinically significant distress or impairment in social, occupational, or other important areas of functioning.
- D. The symptoms are not due to the direct physiological effects of a substance (e.g., a drug of abuse, a medication) or a general medical condition (e.g., hypothyroidism).
- E. The symptoms are not better accounted for by Bereavement, i.e., after the loss of a loved one, the symptoms persist for longer than 2 months or are characterized by marked functional impairment, morbid preoccupation with worthlessness, suicidal ideation, psychotic symptoms, or psychomotor retardation.

DSM IV Diagnostic Criteria for Major Depressive Disorder¹

Single Episode

- A. Presence of a single Major Depressive Episode
- B. The Major Depressive Episode is not better accounted for by Schizoaffective Disorder and is not superimposed on Schizophrenia, Schizophreniform Disorder, Delusional Disorder, or Psychotic Disorder Not Otherwise Specified.
- C. There has never been a Manic Episode, a Mixed Episode, or a Hypomanic Episode.

Recurrent

- A. Presence of two or more Major Depressive Episodes. Note: To be considered separate episodes, there must be an interval of at least 2 consecutive months in which criteria are not met for a Major Depressive Episode.
- B. The Major Depressive Episodes are not better accounted for by Schizoaffective Disorder and are not superimposed on Schizophrenia, Schizophreniform Disorder, Delusional Disorder, or Psychotic Disorder Not Otherwise Specified.
- C. There has never been a Manic Episode, a Mixed Episode, or a Hypomanic Episode. Note: This exclusion does not apply if all the manic-like, mixed-like, or hypomanic-like episodes are substance or treatment induced or are due to the direct physiological effects or a general medical condition.

Other Depressive Disorders²

- **Depressive Disorder, Not Otherwise Specified**
 - Features which don't fit major depressive disorder, dysthymic disorder or adjustment disorder with depressed mood
 - (ex: Premenstrual dysphoria, Minor depressive Disorder (<5))
 - Unable to determine etiology (substance, medical condition, or primary mental) of a depressive disorder.

- **Dysthymic Disorder (Dysthymia)**
 - Depressed mood most of the day more days than not for two years or more (irritable mood for at least one year in children/adolescents)
 - Two or more of the following during period of depression
 - Poor appetite or overeating
 - Insomnia or hypersomnia
 - Low energy or fatigue
 - Low self-esteem
 - Poor concentration or decision-making ability
 - Hopelessness
 - Has not gone symptom free for two or more consecutive months during period of illness
 - No history of major depressive episode or disorder
 - No history of manic, mixed or hypomanic episode. No history of cyclothymic disorder.
 - Has not occurred only during a psychotic disorder
 - Not due to a substance or general medical condition
 - Work or social function significantly impaired

Naturopathic Medicine

- Distinct system of primary care medicine
- Uses several modalities of treatment to establish the health of the patient
 - Physical manipulation
 - Clinical nutrition
 - Botanical medicine
 - Homeopathy
 - Counseling
 - Acupuncture and Oriental Medicine
 - Hydrotherapy
- Trained in the same basic and clinical sciences as MD, DO, DC, DDS with additional training in the above modalities
- Focuses on the following principles

The Six Naturopathic Principles

- *First Do No Harm - primum non nocere*
- *The Healing Power of Nature - vis medicatrix naturae*
- *Discover and Treat the Cause, Not Just the Effect - tolle causam*
- *Treat the Whole Person - tolle totum*
- *The Physician is a Teacher – docere*
- *Prevention is the best "cure"*

The Body's Ability to Heal

If you move obstacles to cure, provide good nutrition, healthy lifestyle, the body will heal.

Approach

- The naturopathic approach to depression is multi-factorial considering the following :

Food allergies	Environmental Toxicity
Pre-existing medical conditions	Prescription medications
Nutritional imbalances	Stress/ Adrenal Imbalance
Lifestyle factors	Hormonal Imbalance

Treatments

- And there are several treatments that are clinically effective in treating depression:

Dietary Modification	Counseling
Nutritional Supplementation	Homeopathy
Botanical Medicine	Lifestyle Changes
Heavy Metal Detoxification	Neurofeedback

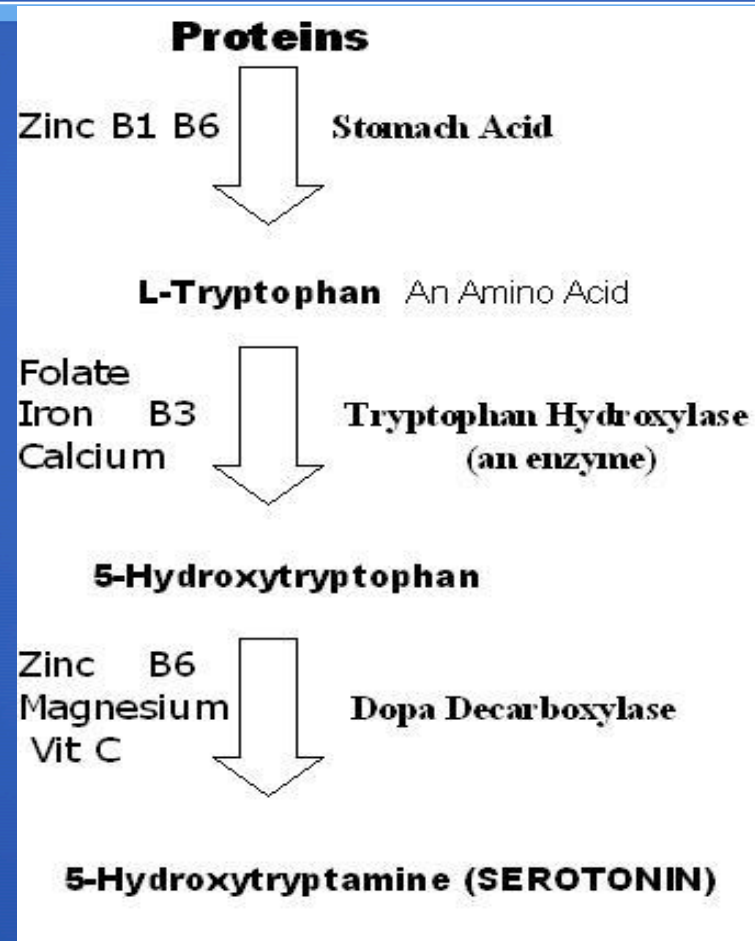
Three Topics

- We will discuss these three topics
 - Nutritional Supplementation
 - Botanical Medicine
 - Homeopathy
- However, diet is the most important
 - Low simple carbohydrate (i.e. sugar)
 - Proper absorption of nutrients
 - Food allergies (esp. wheat and dairy)
 - Avoidance of stimulants and depressants (alcohol, caffeine, etc.)
- Environmental toxicity is often an issue
- Oriental medicine has several treatments as well

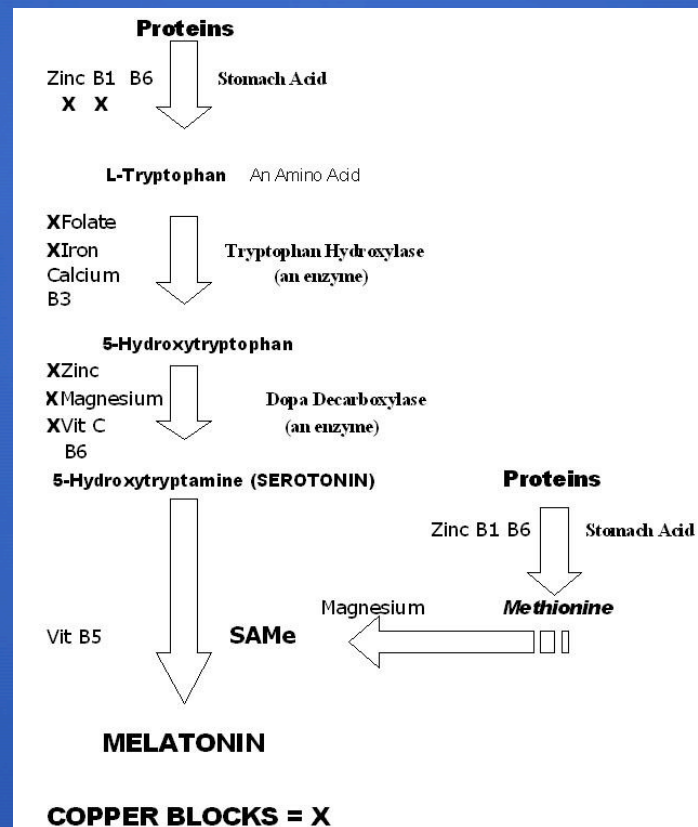
Nutritional Supplementation

- **Basis:**
 - There are several neurotransmitters that are involved in depression: epinephrine, norepinephrine, serotonin, dopamine
 - Certain nutrients help brain cells function: Omega -3 fatty acids, Minerals
 - Some foods can have negative effects on brain activity: Sucrose, Caffeine

Biochemistry of Serotonin

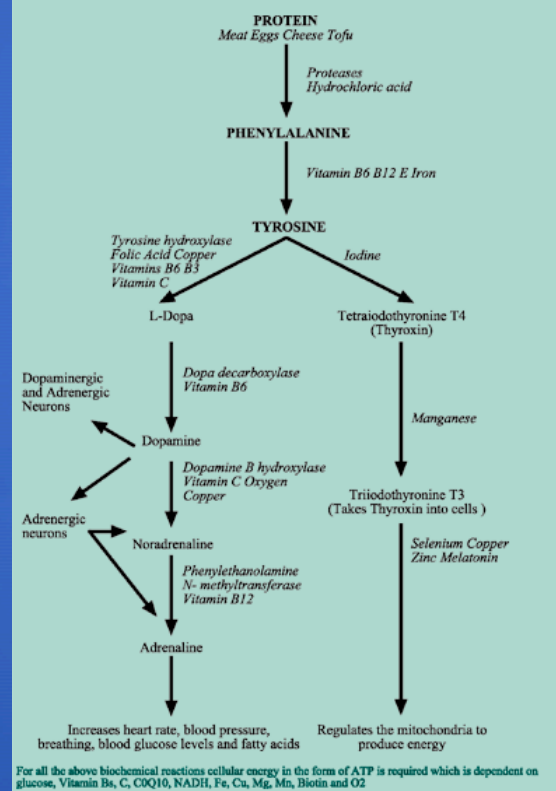


Biochemistry of Melatonin



Biochemistry of Dopamine, Epinephrine, Norepinephrine

Diagram showing the metabolic Pathway of Dopamine, Adrenaline and Thyroxin



Tryptophan

- Tryptophan a precursor for serotonin in the serotonin in pathway.
- The pathway needs B6, B3 and others
- High doses are necessary to produce enough serotonin
- Some studies show linkage but more studies are needed:
 - Thomson J, Rankin H, Ashcroft GW, Yates CM, McQueen JK, Cummings SW. The treatment of depression in general practice: a comparison of L-tryptophan, amitriptyline, and a combination of L-tryptophan and amitriptyline with placebo. *Psychol Med.* 1982;12(4): 741-51.
 - Shaw K, Turner J, Del Mar C. Are tryptophan and 5-hydroxytryptophan effective treatments for depression? A meta-analysis. *Aust N Z J Psychiatry.* 2002; 36(4):488-91.

5-HTP

- 70% of oral dose becomes serotonin.
- Increases serotonin, endorphins, catecholoamines.
- Clinically shown equally effective as SSRIs and tricyclic antidepressants but, not enough studies.
 - Meyers S. Use of neurotransmitter precursors for treatment of depression. Altern Med Rev. 2000 ;5(1):64-71.

Tyrosine

- Key in the production of dopamine, norepinephrine and epinephrine
- Decreased dopamine implicated in depression:
 - McLean A, Robbins TW, et al. The effects of tyrosine depletion in normal healthy volunteers: implications for unipolar depression.. Psychopharmacology (Berl). 2003.
- Don't use with Monamine Oxidase Inhibitors (MAOI)
 - Can cause hypertension

Key Nutrients

- Omega-3 fatty acids
- Used to maintain fluidity in the cell.
- Low omega-3 causes less fluidity, impairs all facets of neurotransmitter production, uptake and transmission
- Fatty acids in brain cell membranes necessary for neurotransmission.
 - Haag M. Essential fatty acids and the brain. *Can J Psychiatry*. 2003;48(3):195-203.
- Patients with depression are consistently found to have low EFA in their cell tissues. Treatment with EFA had significantly decreased score on Hamilton Rating Scale for Depression.
 - SU Kp, Huang SY, etal. Omega-3 fatty acids in major depressive disorder. A preliminary double-blind, placebo-controlled trial. *Neuropsychopharmacol*. 2003;13(4):267-71.

Vitamin Deficiencies

- **Vitamin Deficiencies: Thiamin, Riboflavin, Niacin, Biotin, Pantothenic Acid, B6, Folic Acid, B12, Vitamin C, iron--all associated with depression.**
 - Benton D, Donohoe RT. The effects of nutrients on mood. *Public Health Nutr.* 1999;2(3A): 403-9.
 - Forster S, Gariballa S. Effects of dietary supplements on depressive symptoms in older patients: A randomised double-blind placebo-controlled trial. *Clinical Nutrition*, 2007; 26:545-551.
- **Vitamin C**
 - Required cofactor for dopamine- β -hydroxylase, which converts dopamine to norepinephrine.
 - Has as anti-anxiety effects

Niacin (B-3)

- If niacin stores are sufficient, tryptophan is left to go into the serotonin pathway.
- Niacin is important in the production of Eicosapentanoic Acid (EPA) which is in O-3 fatty acids
- It is also a co-factor in energy production pathways
- Absence causes pellagra (diarrhea, dermatitis, dementia, and death)

Pyroxidine (Vitamin B6)

- B6 functions in manufacture of all monoamines in brain.
- Low in women on oral contraceptives
- Low level of B6 associated with depressive score:
 - Hvas AM, Juul S, Bech P, Nexø E. Vitamin B6 level is associated with symptoms of depression. *Psychother Psychosom* 2004;73:340-343.

Additional Vitamins

- Folic Acid, B₁₂, B₆ --> SAMe (S-adenosyl-methionine): methyl donor-->serotonin, dopamine, adrenal hormone formation.
- Increased FA, B₁₂, and Vit C increase tetrahydrobiopterin (BH₄)-->serotonin and dopamine manufacture.
- Low levels of homocystein, B₁₂ , and folate are associated with higher risk of depression :
 - Jae-Min Kim, Robert Stewart, Sung-Wan Kim, Su-Jin Yang, Il-Seon Shin and Jin-Sang Yoon. Predictive value of folate, vitamin B₁₂ and homocysteine levels in late-life depression. British Journal of Psychiatry. 2007;192:268–274.
 - NP Rao, et al. Role of vitamin B₁₂ in depressive disorder — a case report. Department of Psychiatry, National Institute of Mental Health and Neurosciences (Deemed University), Bangalore, India. 2008.

Minerals

- Magnesium helps relax smooth muscle and it is calming. It affects the permeability of cell membrane and is necessary for the formation of tyrosine. Inversely related to depression scores:
 - N. Felice, et al. Association between magnesium intake and depression and anxiety in community-dwelling adults: the Hordaland Health Study. *Australian and New Zealand Journal of Psychiatry*. 2009;43(1):45-52
- Zinc levels are rich in the hippocampus of the brain and it is necessary for neuron development, neurotransmitter synthesis and copper chelation. Zinc deficiency is associated with certain mental health problems in animal and human studies:
 - Ann M DiGirolamo and Manuel Ramirez-Zea. Role of zinc in maternal and child mental health. *Am J Clin Nutr* 2009;89(suppl):940S-5S.
- Calcium is important for the transmission of messages across neurons. Calcium is necessary for the release of neurotransmitters into the synapse.

Botanicals

- Rarely mono-therapies
 - Herbs are combined in formulas
 - Often custom formula
- Quality is important
 - Freshness, Organic or Wildcrafted
 - Proper part (i.e. leaf, root, stem, flower, fruit)
 - Harvested at the proper time.
- Form (dry, tincture, tea, etc.)
- Herbal information is accessed through a Materia Medica and other sources

Botanical Medicine

- **Avena Sativa (Wild oats)**
 - Nutritive herb, used for anxiety, depression, ADHD, cardiac weakness from nervous exhaustion and insomnia
 - Strongly indicated for nervous exhaustion
 - Effective in treating addiction
- **Pausinystalia johimbe (Yohimbe)**
 - Increase the release of NE
 - Dilation of blood vessel

Botanicals (continued)

- **Melissa officinalis (Lemon balm)**
 - Used for anxiety and depression
 - Also used for hypothyroidism
- **Hypericum perforatum (St. John's Wort)**
 - Mood elevation (usually 2-3 months)
 - Seasonal affective disorder (comb. w/ light therapy)
 - Show to be as effective as SSRIs:
 - Rahimi R , Nikfar S, Abdollahi M. Efficacy and tolerability of Hypericum perforatum in major depressive disorder in comparison with selective serotonin reuptake inhibitors: A meta-analysis. *Progress in Neuro-Psychopharmacology & Biological Psychiatry.* 2009;33:118–127.
- **Rosmarinus officinalis (Rosemary)**
 - Circulatory herb. Helps with memory and depression
 - Old association with memory- "Rosemary for Remembrance"

Other Botanicals

- Fatigue (Adaptogens)
 - Astragalus membranaceus
 - Withania somnifera (Ashwagandha)
 - Panax ginseng
 - Eleutherococcus senticosus (Siberian ginseng)
 - Rhodiola rosea (mood and depression)
 - Darbinyan v, Aslanyan g, Amroyan E, Gabriel yan E, Malstrom c, Pannosian A. Clinical trial of Rhodiola rosea L. extract SHR-5 in the treatment of mild to moderate depression. Nord J Psychiatry. 2007;61(5): 343-8.

Homeopathy

- Created by Samuel Hahneman (1755-1843)
 - Physician and chemist
 - Reaction to toxic substances such as mercury and lead being used as medicines
- Based on “like cures like”. Given substance that produces the symptoms that patients have.
- Used minimum dilutions of substances (the more diluted the substance, stronger it is)
 - 1 in 9 = 1x, additional dilution 2x, 3x, etc.
 - 1 in 99 = 1c, additional dilution 2c, 3c, etc.
- Homeopathic information is stored in:
 - Materia Medica (Information on specific substances)
 - Reperatory (list specific symptoms and substances that produce them)

Classical Homeopathy: Method of Diagnosis

- Homeopathic patients are diagnosed based on the characteristic symptoms not the disease. It is necessary to sit with the patient for a period of time (30-90 minutes) to take a “case”.
- For example, this means that three patients may all have major depression but, if their symptoms are different they will receive a different homeopathic preparation
- However, some preparations have a particular affinity for certain ailments such as grief (Nat Mur)

Keynotes of a Few Homeopathic Remedies for Commonly Used Depression

- Aurum Metallicum (Gold) – Severe depression. Suicidal states. Amelioration from music. Fear of Failure.
- Cimicifuga (Black Cohash) – Depression with the feeling of being in a black cloud. Loquacity.
- Ignatia – Ailments after grief. Sensation of a lump in the throat. Aversion to consolation. Alternating moods.
- Natrum Muriaticum (Salt) – Craves salt. Ailments after grief. Photosensitivity. Aversion to consolation. Dwells on past grief and humiliations. Fear of robbers.
- Pulsatilla – Better with consolation. Changeability of physical and mental symptoms. Weeps when telling of symptoms. Dogmatism.
- Sepia (cuttlefish) – Symptoms better with vigorous exercise or occupation. Indifferent to family. Aversion to company. Mental dullness, sluggishness and confusion.

Homeopathic Research

- **Effective in animal study.**
 - Pinto SA, Boland E, Coelho Cde P, Morgulis MS, Bonamin LV. An animal model for the study of Chamomilla in stress and depression: pilot study. *Homeopathy*. 2008;97(3):141-4.
- **Homeopathy may be useful in the treatment of depression and anxiety disorders in patients. Note small sample size (12).**
 - Davidson JR, Morrison RM, Shore J, Davison RT, Bedayn G. Homeopathic treatment of depression and anxiety. *Altern Ther Health Med*. 1997;3(1):46-9.
- **Use of Raman and Ultra-Violet–Visible (UV–VIS) spectroscopy illustrate the ability to distinguish two different homeopathic medicines (*Nux vomica* and *Natrum muriaticum*).**
 - Rao ML, Roy R, Bell IR, Hoover R. The defining role of structure (including epitaxy) in the plausibility of homeopathy. *Homeopathy*. 2007;96(3):175-82.
- **Issues of Recruitment**
 - Pilkington K, Kirkwood G, Rampes H, Fisher P, and Richardson J. Homeopathy for depression: a systematic review of the research evidence. *Homeopathy*. 2005; 94:153–163.

Naturopathic Research

- Much of the research is done under the auspices of Complementary and Alternative Medicine (CAM)
- A few published studies have been conducted some of the naturopathic schools in the US and homeopathic colleges in Britain.
- The bulk of the studies are done by researchers in various medical and related fields

Issues

- Limited funding
- Study methodology
 - Naturopathic physicians stress digestion
 - Homeopathy requires follow-up to change dosage or remedy as needed
- Lack knowledge of naturopathic medicine by researchers
- Use of ineffective of dosages or modalities

Summary

- Naturopathic treatment of depression uses multiple therapies
- Treatment is often individualized
- Diet and nutrition is the most important as is digestion and elimination
- Several modalities have been shown to be effective but, studies are limited for most.
- Naturopathic physicians treat based on principles that encompass effectiveness and safety.

Additional References

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- Morstein M. Nutrition 740 Notes. Southwest College of Naturopathic Medicine and Health Sciences, Tempe Arizona 2006.
- No Zinc, No 5-HTP, No Serotonin, No Melatonin. Available at: <http://www.understand-andcure-anxietyattacks-panicattacks-depression.com/5-htp-Melatonin.html>. Accessed February 28, 2009.
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Notes

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