

Improve your mood: natural medicine for depression



Depression is common and rates may be increasing

- ◆ Women have a 20% lifetime risk of becoming depressed (men ~ 10%)
- ◆ 10% of women experience post partum depression
- ◆ Depression contributes to physical illness
- ◆ Depression can lead to suicide, marital breakdown, job loss, alcohol and drug abuse
- ◆ Depression can rob us of the chance to savour life to its fullest; to laugh, love, etc



Depression affects our physical health

- ◆ Depression is associated with an increased risk of dying after having a heart attack
- ◆ Bereaved people tend to have more viral infections and higher mortality
- ◆ Depression can worsen rheumatoid arthritis



Concerns with anti- depressant medications

- ◆ They may not help
- ◆ They can cause:
 - insomnia/agitation
 - decreased libido/sexual dysfunction
 - nausea, diarrhea, dyspepsia
 - increased suicidal thoughts
- ◆ There is a high relapse rate after discontinuing these medications

Saturated fatty acids are found in:



Animal fats (meat, poultry, seafood), butter, dairy products, eggs, coconut oil, palm kernel oil

Monounsaturated fatty acids are found in:



Avocado, olive oil, peanut oil, macadamia nuts, almonds, peanuts, pecans, cashews, pistachios

Sources of linoleic acid (an essential omega 6 PUFA)



Safflower oil



Sunflower oil margarine



Corn oil

Oils: Safflower, sunflower, cottonseed, grapeseed, corn, sesame, soybean, peanut, hemp, walnut, canola,
Nuts: almonds, brazil nuts, pistachios, macadamia nuts, cashews, peanuts, pecans,

Other omega 6 fats

- ◆ Gamma linoleic acid (GLA): found in evening primrose oil, black currant seed oil, borage oil



Evening primrose

- ◆ Arachidonic acid (AA): found in meats, butter, egg yolk, lard



Lard

Sources of α -linolenic acid (an essential omega 3 PUFA)



Hemp oil



Flax



Walnut oil

Walnuts and walnut oil, hemp, chia seeds
canola oil, flaxseed, purslane, green leaves

Other omega 3 fats

- ◆ Eicosapentanoic acid (EPA): found in fatty ocean fish (salmon, sardines, sable fish, halibut)



- ◆ Docosahexanoic acid (DHA): found in human milk, fatty ocean fish (salmon, sardines, sable fish, halibut), organ meats



The ratio between omega 6 (n-6) and omega 3 (n-3) fatty acids is important

- ◆ Paleolithic diet may have had a ratio of 1:1
- ◆ Modern NA diets have a ratio of 8-20:1
- ◆ The optimum ratio is thought to be 1-2:1



Omega 6 pathway

Linoleic acid (LA)

Gamma-linolenic acid (GLA)

PG1

Arachidonic acid (AA)

PG2

Delta-6 desaturase

Elongase

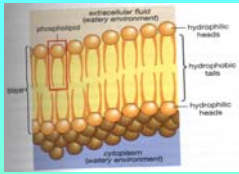
Omega 3 pathway

Alpha-linolenic acid (LNA)

Eicosapentanoic acid (EPA)

Docosahexanoic acid (DHA)

PG3



Cell membranes and dietary fats

- ◆ We make eicosanoids (prostaglandins, etc) from the fats available in our cell membranes
- ◆ Eicosanoids influence the function of every cell in our bodies
- ◆ 1:1 ratio of SFA:PUFA is ideal for maximum fluidity and stability of our cell membranes
- ◆ Membrane lipids reflect dietary intake



Omega 3 fats and depression

- ◆ High intake of omega 6 fatty acids relative to omega 3's and inadequate omega 3's are associated with increased depression
- ◆ Low levels of plasma EPA are strongly correlated with increased severity of depression and suicide risk (China: 8x higher risk in people in the lowest quartile of EPA)
- ◆ Fish intake is associated with lower rates of depression



Omega 3's

- ◆ Found in dark leafy greens, flax, walnuts, canola oil, hemp oil and fatty fish
- ◆ Plant sources are poorly converted to the long chain EFA's (EPA and DHA)
- ◆ Fish oils are best source:
 - 3-4 servings/week of salmon, sardines, etc
 - Supplement 1200mg of EPA + DHA/day
- ◆ Patients on anticoagulants should avoid pharmacologic doses



Purchasing essential fatty acid supplements

- ◆ Look for fish oil rather than 3-6-9 products
- ◆ Look for a product that is molecularly distilled
- ◆ Look for a high potency product: at least 600 mg EPA + DHA per capsule
- ◆ Take early during a meal to avoid 'fish burps'



Strategies for vegans and vegetarians

- ◆ Eat less omega 6 fats- safflower, sunflower, corn, soy and peanut oils
- ◆ Use a monounsaturated fat as the main cooking oil (e.g. extra virgin olive oil)
- ◆ Increase consumption of flax (use freshly ground and keep cold), hemp seed, chia seeds, canola oil, walnuts

B vitamins



- ◆ Folic acid has been most well studied
- ◆ Sources: dark green leafy vegetables, beans, avocado, peas, broccoli
- ◆ All B vitamins are usually taken together (e.g. multivitamin or B-complex)

Folic acid and vitamin B12

- ◆ Folic acid can improve the effect of anti-depressant medications
- ◆ Folic acid alone has been shown to have measurable anti-depressant effects
- ◆ Deficiency of vitamin B12 can also cause depression
- ◆ Increased risk of B12 deficiency: >65 yrs, low stomach acid, pernicious anemia, vegan diet



Vitamin D

- ◆ Vitamin D deficiency is widespread
- ◆ People at increased risk: anyone living above 35° latitude, obese, elderly, darker skin tones, sun avoidance, malabsorption, complete clothing coverage, sun block usage



Ultraviolet-B (UVB) light as a source of vitamin D

- ◆ From an evolutionary perspective, we are designed to obtain most of our vitamin D requirements from sun exposure
- ◆ 20 minutes of full body exposure can produce ~10,000 IU's of vitamin D (in a Caucasian)
- ◆ UVB exposure varies with the season, time of day, latitude, altitude, cloud cover, etc



Dietary sources of vitamin D

- ◆ Foods: Fatty fish, mushrooms, egg yolks
- ◆ Fortified foods: milk, breakfast cereals, soymilk, butter
- ◆ Supplements: fish liver oils, multivitamins, vitamin D



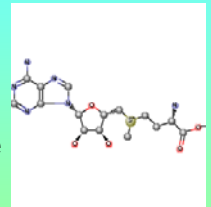
Treating vitamin D deficiency

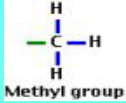
- ◆ Ask your physician or nurse practitioner to order a test for vitamin D (25OHD)
- ◆ Ideally, it should be between 80-150 nmol/l
- ◆ Most people require at least 1000 IU/d D3
- ◆ It is best to take vitamin D with meals as it is a fat soluble vitamin
- ◆ Correcting vitamin D deficiency may be especially useful in alleviating seasonal affective disorder (SAD)



S adenosyl methionine

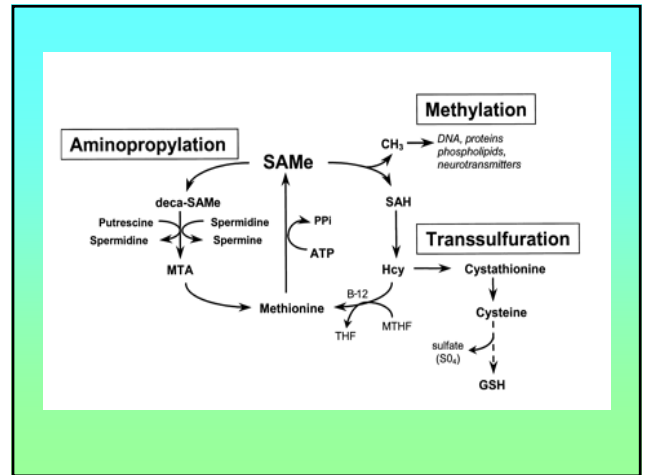
- ◆ Known as 'SAME'
- ◆ Beneficial for osteoarthritis, depression and liver disease
- ◆ Favorable side effect profile comparable to placebo
- ◆ Relatively quick onset of action





S-adenosyl methionine biochemistry

- ◆ SAME is formed from the essential amino acid methionine and adenosine triphosphate (ATP)
- ◆ It is found in every living cell, especially the brain and liver
- ◆ It is a methyl group donor in > 100 different reactions in the body



Using SAMe

- ◆ Use an enteric coated, butanedisulfonate form (more stable)
- ◆ Take on an empty stomach
- ◆ Side effects are rare
- ◆ Starting dose 200mg
- ◆ Do not use in bipolar disorder
- ◆ Take along with folic acid, B6, B12 (all the B vitamins can be found in a good multivitamin)

Hypericum perforatum St John's wort

- ◆ A complex botanical medicine with multiple actions
- ◆ Anti-viral, anti-depressant
- ◆ The oil is used topically for muscle aches
- ◆ Buds and flowers used internally
- ◆ Hypericin, hyperforin, flavonoids, procyanidines, phenols, volatile oil



St John's wort

- ◆ Effective for mild/moderate depression in a number of studies
- ◆ Warning: multiple herb/drug interactions
- ◆ Look for a product that is standardized to 0.3% hypericin and 5% hyperforin
- ◆ Usual dose: 300mg three times a day, with meals



Exercise

- ◆ Both strength training and aerobic exercise have antidepressant activity
- ◆ Aim for 30 minutes a day, most days of the week
- ◆ Exercise is also cancer protective and has many other benefits for the heart, lungs, bones, etc.



Spirituality

- ◆ Spirituality is linked to lower rates of:
 - Depression
 - Anxiety
 - Suicide
 - Smoking
 - Binge drinking
- ◆ Spirituality is linked to:
 - Improved immune function
 - Lower blood pressure
 - Less physical disability
 - Better recovery from heart surgery



What is spirituality?

- ◆ "The definition of spirituality is that which relates to or affects the human spirit or soul as opposed to material or physical things."
- ◆ "Whatever makes you feel peaceful, joyful and content is spirituality."
- ◆ "My definition of spirituality is to reconnect with the nature of Divinity/God in all of its forms -- Truth, Love, Beauty, Bliss, Joy, Peace etc."
- ◆ "The quality or state of being spiritual; incorporeality; heavenly-mindedness."

IM approach to depression

- ◆ Consider psychotherapy
- ◆ B vitamins, vitamin D and omega 3's (fish oil)
- ◆ Exercise
- ◆ Consider: SAMe or St John's wort (check with your M.D.)
- ◆ Nurture your spiritual life

