

# Nutrition and lifestyle changes to help manage anxiety

Social Anxiety Foundation

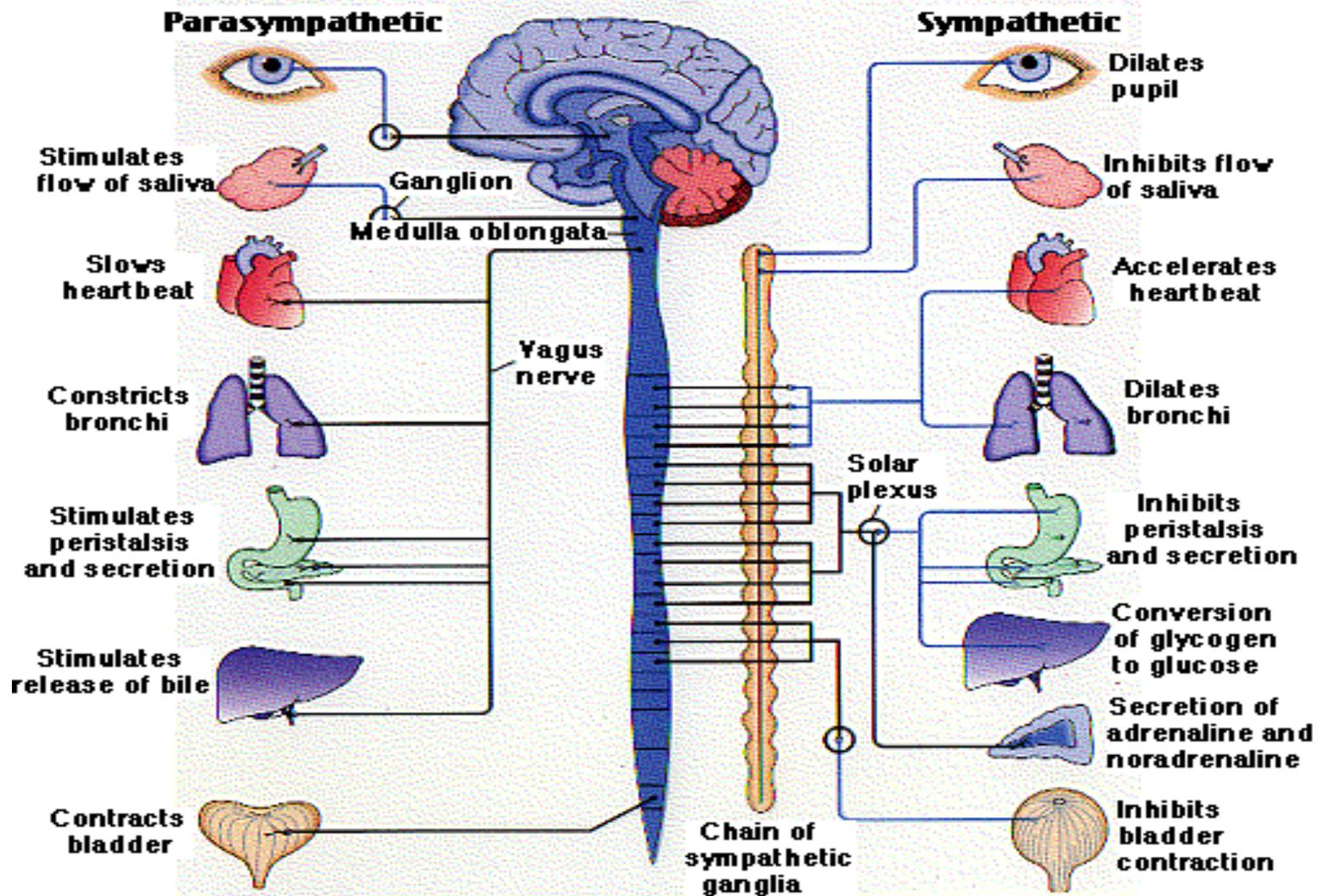
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# Overview

- The role of the nervous system in anxiety
- Foods that impact on the nervous system
- Foods that impact on blushing
- Supplements that may help
- Q&A

# The arms of the nervous system



# Parasympathetic nervous system

- **'rest and digest'**
- Digestion
- Reproduction
- Tissue repair
- Normal metabolism
- Normal circadian cycles



# Sympathetic nervous system

- **'flight or fight'**
- Increased breathing rate
- Increased blood glucose
- Decreased digestion
- Decreased reproduction
- Black or white thinking
- Quick linear thoughts
- Dilated pupils
- Increased blood pressure
- High glucocorticoid release
- Increased blood supply to muscles



# Physical Symptoms of anxiety

- Palpitations, pounding heart, or accelerated heart rate
- Sweating, trembling or shaking
- Shortness of breath
- Sensation of choking, chest pain or discomfort, nausea or abdominal distress
- Feeling dizzy, unsteady, lightheaded, or faint
- Fear of losing control or going crazy
- Tingling nerves in hands or feet
- Chills or hot flashes
- Blushing

# Foods that influence anxiety

- Stimulants – may stimulate the adrenal response which can invoke anxiety, nervousness and insomnia.
- Includes caffeinated drinks, drugs such as ephedrine, amphetamines and cocaine





# Caffeine consumption

- Consumption of tea and coffee has been shown to have many protective effects against stroke, diabetes and depression.
- BUT caffeine is a stimulant, which at high doses can increase anxiety, insomnia, tremulousness, and palpitations<sup>1</sup>.
- A recent trial showed energy drink consumption (per 100 mL/day) was significantly associated with anxiety, especially in males<sup>2</sup>

1. Bhatti SK, O'Keefe JH, Lavie CJ., Coffee and tea: perks for health and longevity? *Curr Opin Clin Nutr Metab Care*. 2013 Nov 16(6):688-97  
2. Trapp GS, Allen K, O'Sullivan TA, Robinson M, Jacoby P, Oddy WH,, Energy drink consumption is associated with anxiety in Australian young adult males. *Depress Anxiety*. 2013 Sep 9.

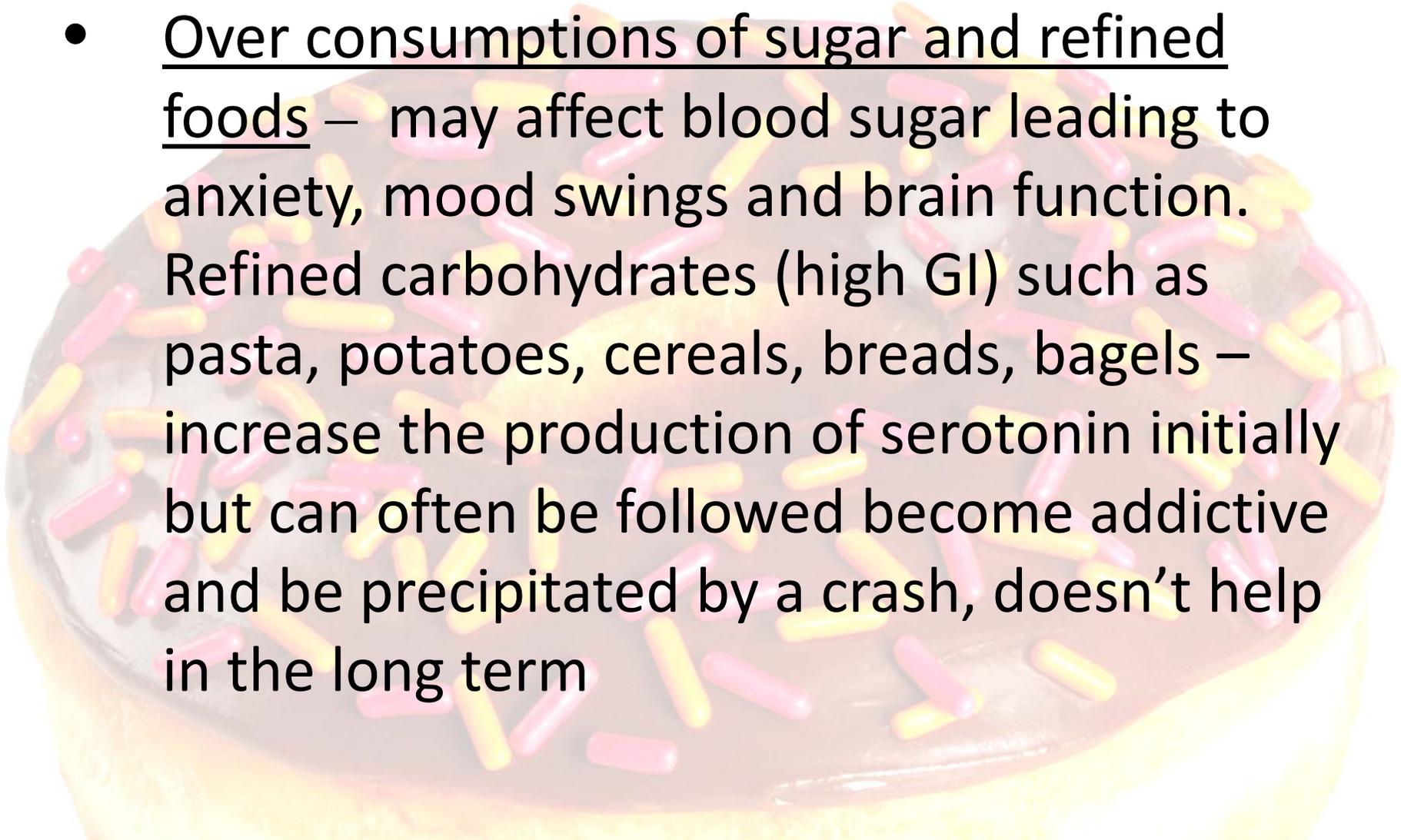
# Caffeine consumption

- Any where between 100mg- 200mg per day may cause anxiety

Beverage	Size	Caffeine
Starbucks latte or cappuccino	Grande	150mg
Green tea	1 bag	45mg
Energy drink (Monster)	1 can	160mg
Energy drink (Red bull)	1 can	80mg
Instant coffee	1 cup	100mg
Coca cola	1 can	32mg
Diet Coke	1 can	42mg
Espresso	1 shot	45mg

# Foods that influence anxiety

- Over consumptions of sugar and refined foods – may affect blood sugar leading to anxiety, mood swings and brain function. Refined carbohydrates (high GI) such as pasta, potatoes, cereals, breads, bagels – increase the production of serotonin initially but can often be followed become addictive and be precipitated by a crash, doesn't help in the long term



# Foods that influence anxiety

- Good quality proteins – lean meats, milk products, oily fish, beans, legumes eggs, unroasted nuts and seeds and soy products – contain the amino acids that are required for your body to produce the feel good neurotransmitters – so these can be protective of anxiety

# Foods that influence anxiety

- Foods that are high in the amino acid Tryptophan - turkey, milk products, bananas, almonds, soy products, whey protein, oats cottage and ricotta cheese –
- Tryptophan is the precursor to serotonin production. Research trials show that if you deplete subjects of tryptophan, their anxiety and depressive symptoms become worse

# Diet rich in processed foods increases the risk of depression

- People who consume a diet rich in **high-fat dairy products and fried, refined, and sugary foods** are at increased risk of developing depression, whereas those whose diet is rich in fish, fruit, and vegetables are at lower risk of developing depression, a new study shows.
- Although other research has looked at the relationship between single nutrients and depression, this is the first study to investigate the effect of dietary patterns on depression.

- Greater adherence to a Mediterranean diet has been associated with a lower incidence of Alzheimer's disease, Parkinson's disease, and depression.
- The high content of antioxidants in fruits and vegetables and high folate content of some fruits and vegetables may be protective against depression, and higher intake of fish has been associated with a lower incidence of depression.

# High inflammatory diets

- Epidemiological studies suggest that an unhealthy dietary eating pattern, consisting of high amounts of **refined grains and softdrinks, red and processed meat, fatty dairy products,** and little amounts of vegetables, fruits and fish is associated with higher levels of major inflammatory makers, which are raised in depression

# Foods that may impact on blushing

- **Stimulants such as caffeine** and **excess sugar** may increase blushing in some individuals
- A small subset of the population get a 'flushing response' with **alcohol**
- Some people may be hypersensitive to the **sulphite preservatives**, (E numbers 220-228 and 150b and 150d) found in wine, dried fruit, dried potato products and as a food additive.

# Supplements that may be helpful

- Some people find herbs and supplements helpful for helping to manage their anxiety. Remember, they will not take it away, but they may just help you to manage the symptoms!

# L-Theanine

- L-theanine is a unique amino acid present almost exclusively in the tea plant.
- It possesses neuroprotective, mood-enhancing, and relaxation properties.
- 400 mg/d of L-theanine was added to ongoing antipsychotic treatment and it helped to ameliorate anxiety symptoms.

# Magnesium

- Mg deficiency has been shown to activate the sympathetic nervous system and worsen anxiety symptoms<sup>1</sup>
- Raising brain levels of magnesium has been shown to reduce anxiety symptoms in animal models, and increase brain plasticity<sup>2</sup>
- Trials of Mg supplementation for anxiety have been limited to PMS sufferers so far, but with good results

1. Sartori SB, Whittle N, Hetzenauer A, Singewald N., Magnesium deficiency induces anxiety and HPA axis dysregulation: modulation by therapeutic drug treatment., *Neuropharmacology*. 2012 Jan;62(1):304-12.
2. Abumaria N, Yin B, Zhang L, Li XY, Chen T, Descalzi G, Zhao L, Ahn M, Luo L, Ran C, Zhuo M, Liu G. Effects of elevation of brain magnesium on fear conditioning, fear extinction, and synaptic plasticity in the infralimbic prefrontal cortex and lateral amygdala. *J Neurosci*. 2011 Oct 19;31(42):14871-81.

# Omega-3 Fish oils

- A group of medical students received either omega-3 (2.5 g/d, 2085 mg eicosapentaenoic acid and 348 mg docosahexanoic acid) or placebo capsules for 12 weeks.
- Compared to controls, those students who received omega-3 showed a 20% reduction in anxiety symptoms, without significant change in depressive symptoms.

# Valerian

## *Valeriana officinalis*

Valerian has been used as a medicinal herb since at least the time of ancient Greece and Rome. Hippocrates described its properties, and Galen later prescribed it as a remedy for insomnia.



# Low-dose valerian for social stress

In a double-blind trial of healthy adults placed in an experimental situation of social stress, valerian (100 mg) reduced subjective sensations of anxiety and did not cause any measurable sedation.



# Valerian extract for anxiety

- Patients with generalized anxiety disorder were randomized to one of the following three treatments for 4 weeks (n = 12 per group): valerian extract (mean daily dose: 81.3 mg), diazepam (mean daily dose: 6.5 mg), or placebo.
- All three groups presented a significant reduction in the total anxiety scores. Only the diazepam and valerian groups showed a significant reduction in the psychic factor of the anxiety rating scale.

# Valerian for OCD

- An 8-week pilot double-blind randomized trial in patients with Obsessive-Compulsive Disorder (OCD) examined the effects of valerian.
- The results showed significant difference between the extract and placebo in the end of treatment.

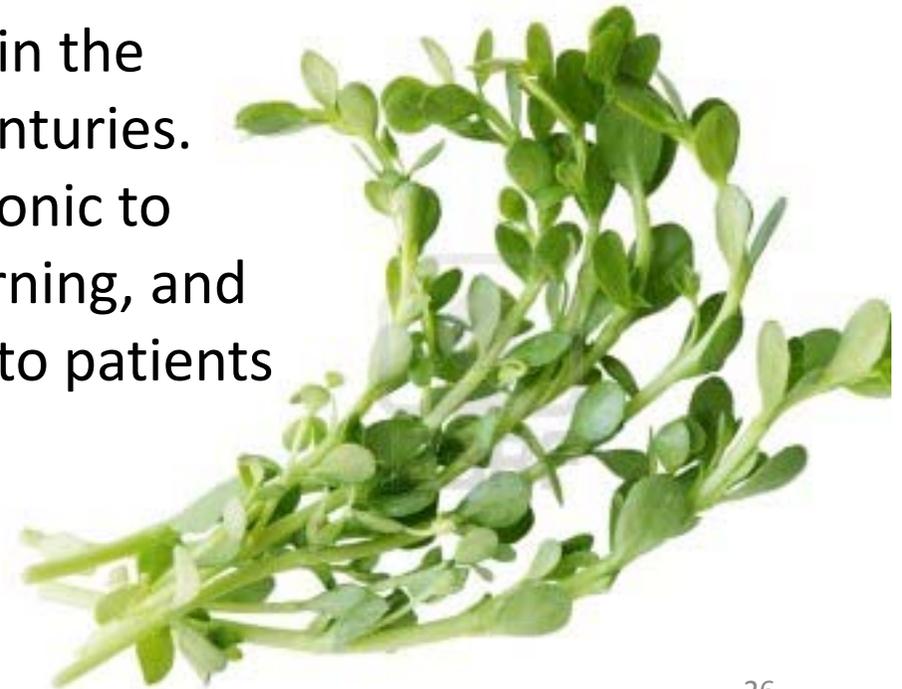
# Valerian: Interactions

**Pharmaceutical sedatives:** Theoretically, potentiation effects may occur at high doses; however, this has not been tested under clinical conditions — observe patients taking valerian concurrently with pharmaceutical sedatives.

# Bacopa

## *Bacopa monniera*

Bacopa (aka Brahmi) has been used in the Ayurvedic system of medicine for centuries. Traditionally, it was used as a brain tonic to enhance memory development, learning, and concentration, and to provide relief to patients with anxiety or epileptic disorders.



# Bacopa for anxiety

A one-month clinical trial of patients with diagnosed anxiety neurosis demonstrated that administration of Brahmi syrup (30 mL daily in two divided doses, equivalent to 12 g dry crude extract of Bacopa) resulted in a significant decrease in anxiety symptoms, level of anxiety, level of disability, and mental fatigue, and an increase in immediate memory span.

Other changes noted were increased body weight, decreased respiration rate, and decreased systolic blood pressure.

# Bacopa clinical study

- Bacopa was shown to reduce anxiety in healthy individuals (the primary study outcome was cognitive function).
- Subjects received Bacopa 300 mg extract or placebo for 12 weeks.
- Treatment significantly improved state anxiety compared to placebo, with maximal effects evident after 12 weeks.

Psychopharmacology (Berl). 2001 Aug;156(4):481-4.

# Ginkgo

## *Ginkgo biloba*

Ginkgo biloba is a deciduous tree with a history of use in traditional Chinese medicine. Although the seeds are most commonly employed in traditional Chinese medicine, in recent years standardized extracts of the leaves have been widely used as a phytomedicine.



# Ginkgo clinical study

Patients with generalized anxiety disorder or adjustment disorder with anxious mood were randomized to daily doses of 240 mg, 480 mg ginkgo or placebo for 4 weeks.

Reductions in anxiety were significantly different from placebo for both treatment groups with a dose-response trend. Ginkgo was significantly superior to placebo on all secondary outcome measures.

Treatment was safe and well tolerated.

# Ginkgo: Interactions

**Antidepressant drugs:** Ginkgo may reduce the sexual dysfunction side effects of these drugs and improve sleep continuity; however, results from clinical studies are mixed

**Anti-epileptic medication:** avoid as may increase seizures.

# Contacting Debbie

- If you have follow up questions for Debbie, please email your question to [info@sashgroup.org](mailto:info@sashgroup.org)