

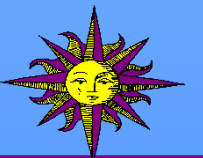
HOLISTIC SUPPORT
ANXIETY AND DEPRESSION

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Anxiety

Differs from normal anxiety and fears which are transient and appropriate i.e. getting anxious before exams, an interview or a performance.

Fear is the emotion anxiety stems from when the person experiences a perceived or real threat of harm.

One of the indicators is that the perception of the threat of danger is over estimated.

Fear and anxious presentation is in excess to a normal response.

Induced by a stress response and that lasts chronically - over 6 months.

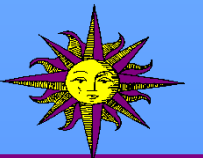
Anxiety is a maladaptive expression of chronic stress.

Anxiety is the response that is expectant of future harm or threat and avoidant behaviours.

Conditioned response to past experience.

Triggers the autonomic nervous system - sympathetic nervous system fight or flight response.

Resulting in constantly experience some of of stress and symptomology associated with this.



Anxiety - Diagnostic Criteria 300.02 (F41.1)

- A Excessive anxiety and worry (apprehensive expectation), occurring more days than not for at least 6 months, about a number of events or activities (such as work or school performance).
- B The individual finds it difficult to control the worry.
- C The anxiety and worry are associated with three (or more) of the following six symptoms (with at least some symptoms having been present for more days than not for the past 6 months);
- Note: Only one item is required in children.
1. Restlessness or feeling keyed up or on edge.
 2. Being easily fatigued.
 3. Difficulty concentrating or mind going blank.
 4. Irritability.
 5. Muscle tension.
 6. Sleep disturbance (difficulty falling or staying asleep, or restless, unsatisfying sleep).
- D The anxiety, worry, or physical symptoms cause clinically significant distress or impairment in social, occupational, or other important areas of functioning.
- E Excessive anxiety and worry (apprehensive expectation), occurring more days than not for at least 6 months, about a number of events or activities (such as work or school performance).
- F The disturbance is not attributable to the physiological effects of a substance (e.g., a drug of abuse, a medication) or another medical condition (e.g., hyperthyroidism).



Anxiety – Diagnostic Criteria continued.

F The disturbance is not better explained by another mental disorder (e.g., anxiety or worry about having panic attacks in panic disorder, negative evaluation in social anxiety disorder [social phobia], contamination or other obsessions in obsessive-compulsive disorder, separation from attachment figures in separation anxiety disorder, reminders of traumatic events in posttraumatic stress disorder, gaining weight in anorexia nervosa, physical complaints in somatic symptom disorder, perceived appearance flaws in body dysmorphic disorder, having a serious illness in illness anxiety disorder, or the content of delusional beliefs in schizophrenia or delusional disorder).

Diagnostic Features

The essential feature of generalized anxiety disorder is excessive anxiety and worry

Prevalence

USA 0.9% in adolescents

2.9% in adults

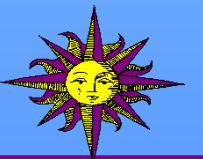
Other countries

0.4-3.6%

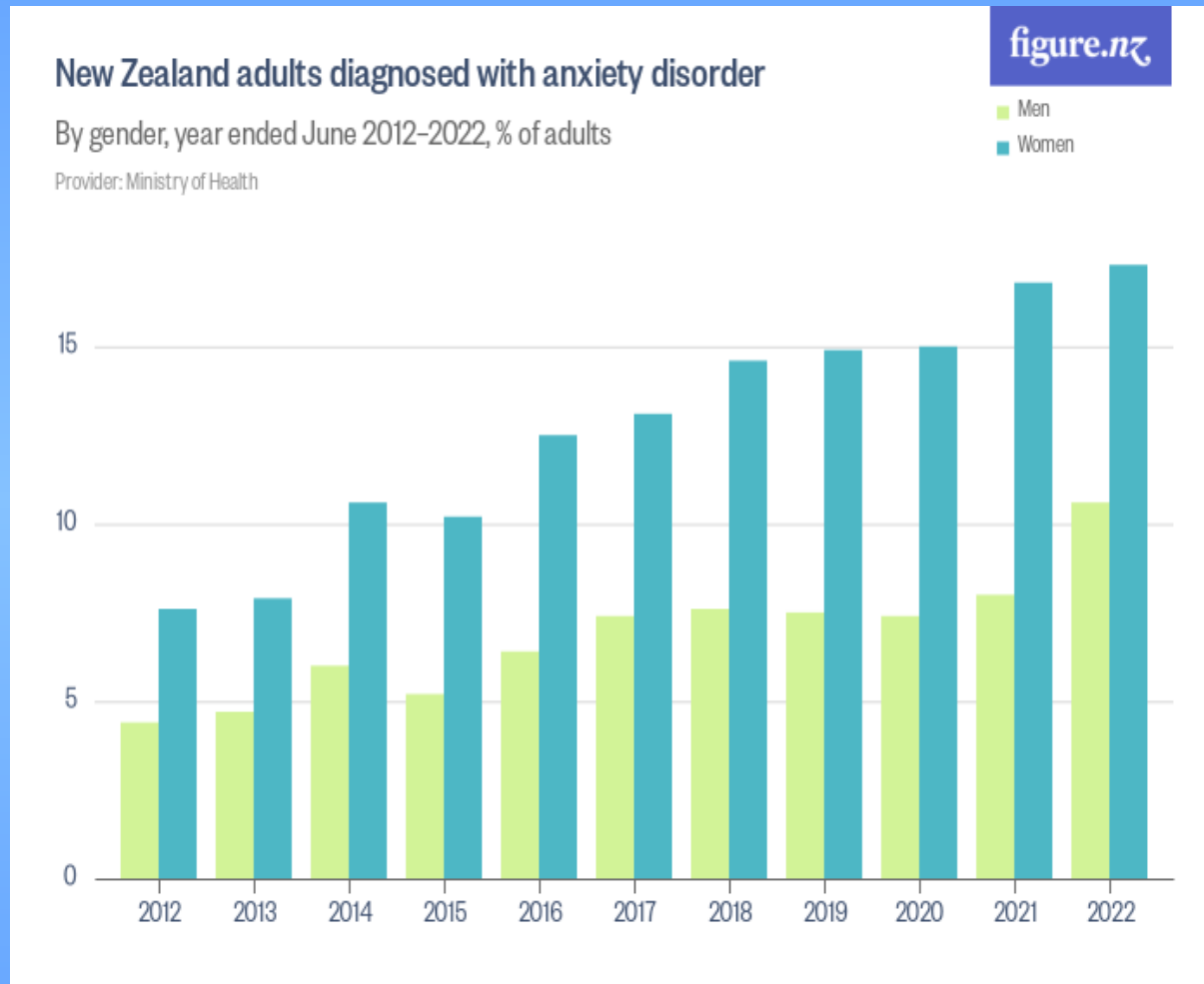
Lifetime morbidity 9.0%

More common in developed than none developed countries and European descent.

Median age is 30 years



Anxiety – NZ Statistics MOH 2022



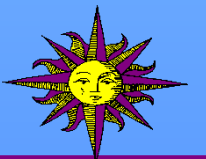
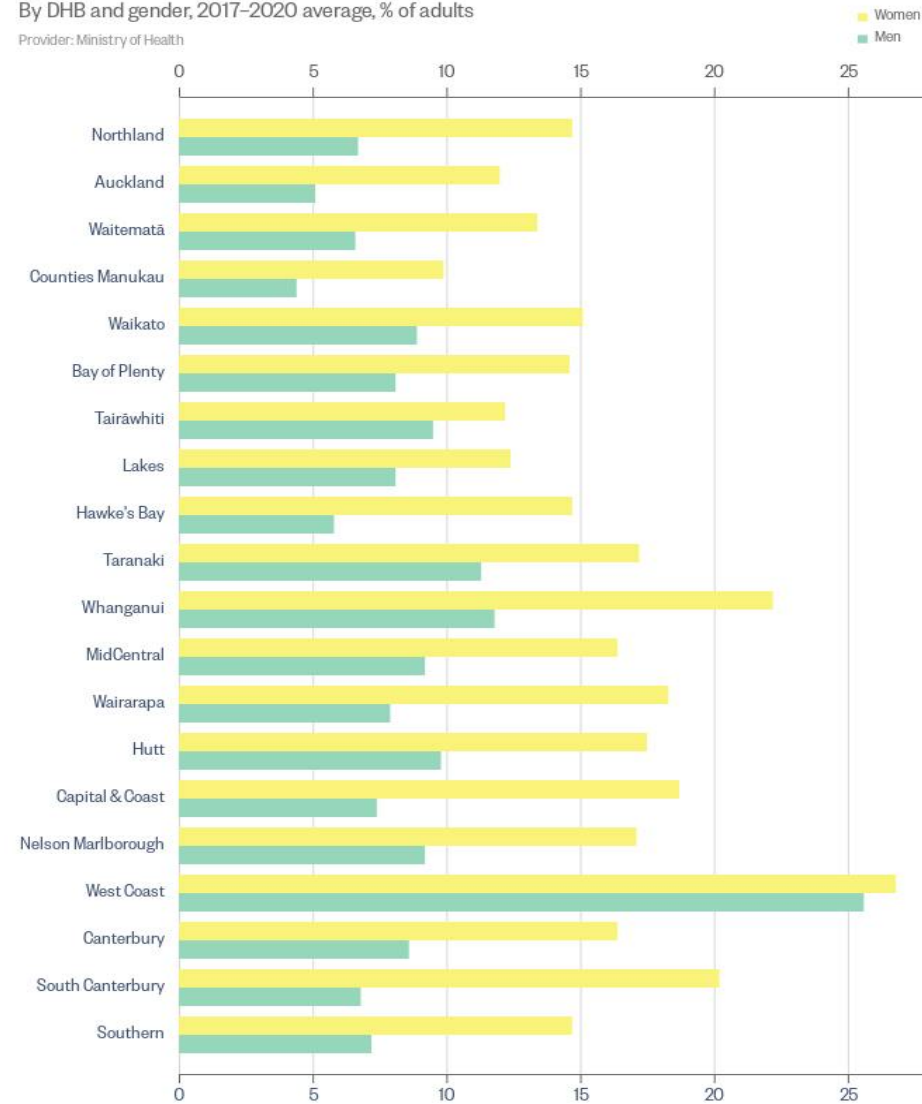
Anxiety – NZ Statistics MOH 2020

New Zealand adults diagnosed with anxiety disorder

By DHB and gender, 2017-2020 average, % of adults

Provider: Ministry of Health

figure.nz



Anxiety – NZ Statistics MOH 2022

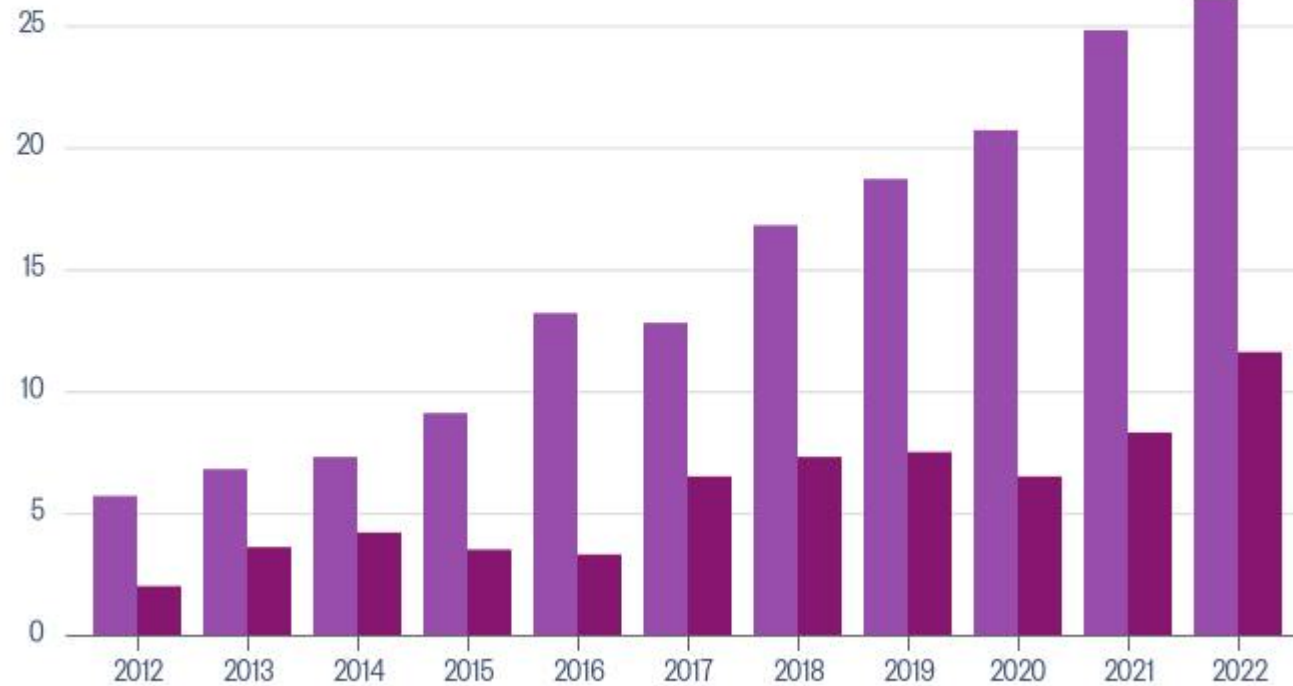
Young people in New Zealand diagnosed with anxiety disorder

By gender, year ended June 2012–2022, % of people aged 15–24

Provider: Ministry of Health

figure.nz

Female
Male



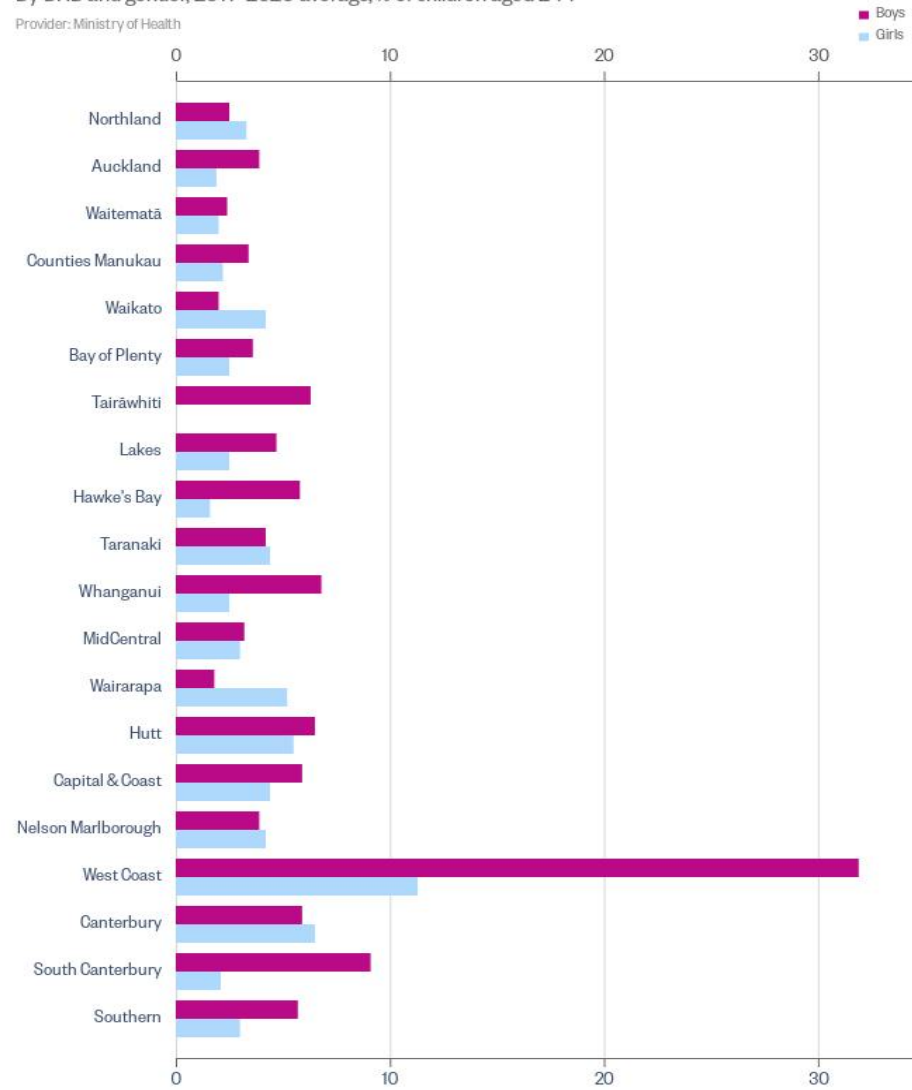
Anxiety – NZ Statistics MOH 2020

New Zealand children diagnosed with anxiety disorder

figure.nz

By DHB and gender, 2017-2020 average, % of children aged 2-14

Provider: Ministry of Health



Anxiety - Presentation

Physical symptoms:

Cold or sweaty hands.

Dry mouth.

Heart palpitations.

Nausea.

Numbness or tingling in hands or feet.

Muscle tension.

Muscles trembling,

Muscle twitching,

Muscles feeling shaky,

Muscle aches

Muscle soreness

Sweating

Diarrhea

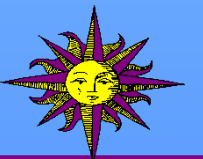
Accelerated heart rate,

Shortness of breath,

Dizziness

Irritable bowel syndrome

Headaches



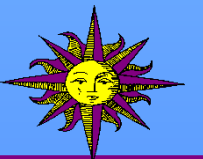
Anxiety – Presentation continued

Mental symptoms:

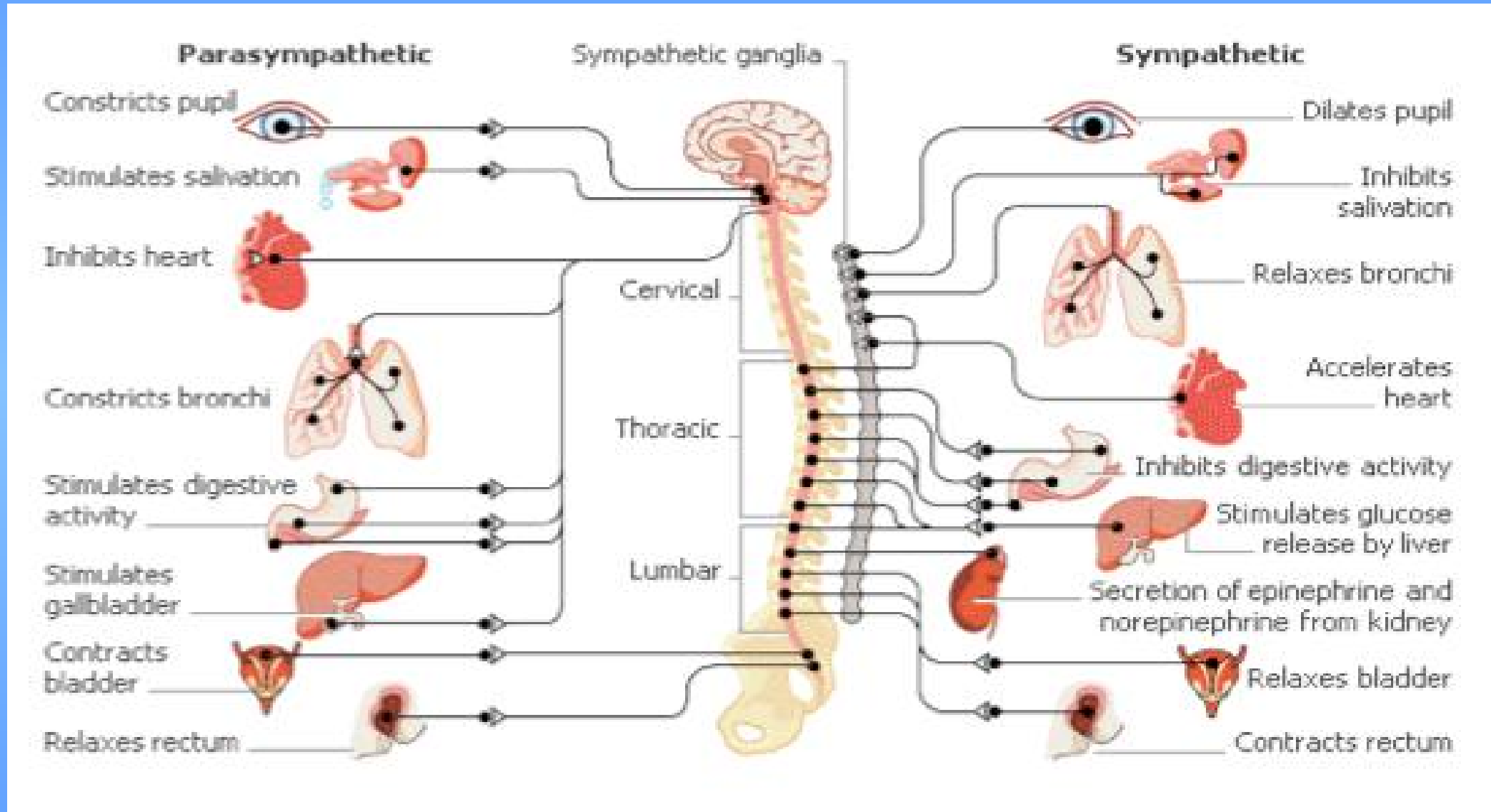
- Feeling panic, fear and uneasiness.
- Nightmares.
- Repeated thoughts or flashbacks of traumatic experiences.
- Uncontrollable, obsessive thoughts.

Behavioural symptoms:

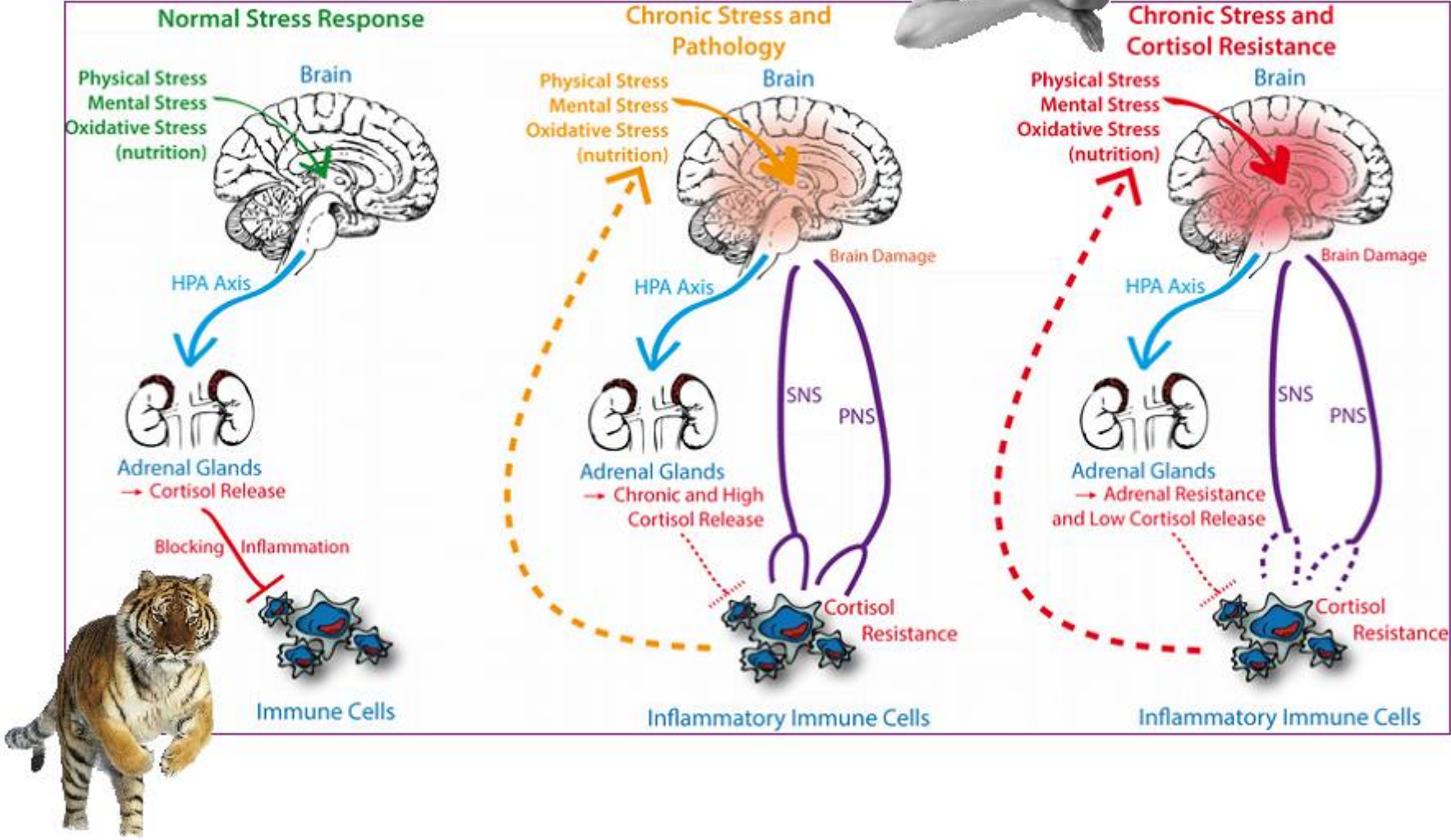
- Inability to be still and calm.
- Ritualistic behaviours, such as washing hands repeatedly.
- Trouble sleeping.



HPA Axis PNS and SNS



Stress - HPA Axis



Cellular Respiration

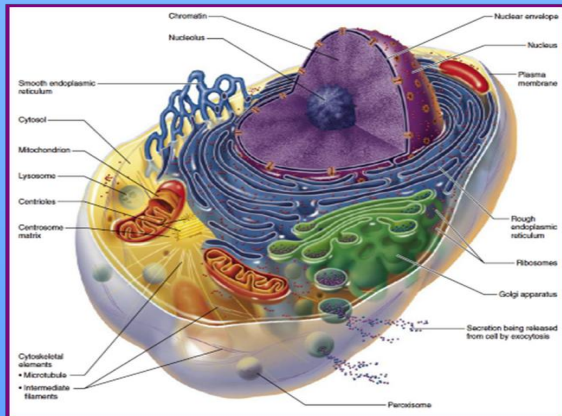
Sugar in the form of glucose is broken down from food and oxidised into CO_2 and H_2O releasing energy in the form of adenosine triphosphate (ATP). This produces energy and is vital to sustain life.

Stage 1: Glycolysis (splitting of sugar) - Occurs in the cytoplasm, 1 glucose molecule ($\text{C}_6\text{H}_{12}\text{O}_6$) is broken into 2 molecules of pyruvic acid producing 2 ATP

Stage 2: Transition Reaction - Pyruvic acid is moved into the mitochondria of the cell and converted into Acetyl CoA

Stage 3: The Krebs Cycle - This happens in the mitochondrial matrix, the Acetyl CoA in the presence of Oxygen has the Hydrogen removed from it. The remaining products are CO_2 and H_2O which are exhaled. This results in the production of a significant amount of NADH (a derivative of vitamin B3) and 4 ATPs

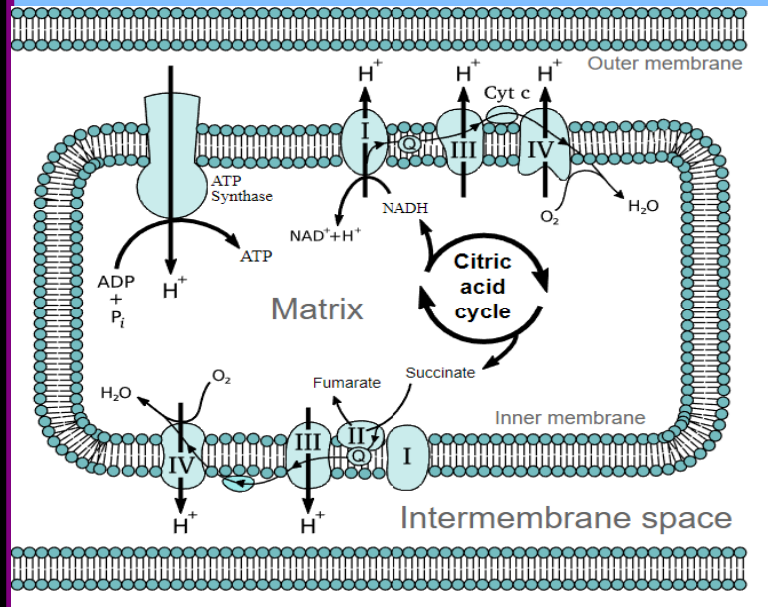
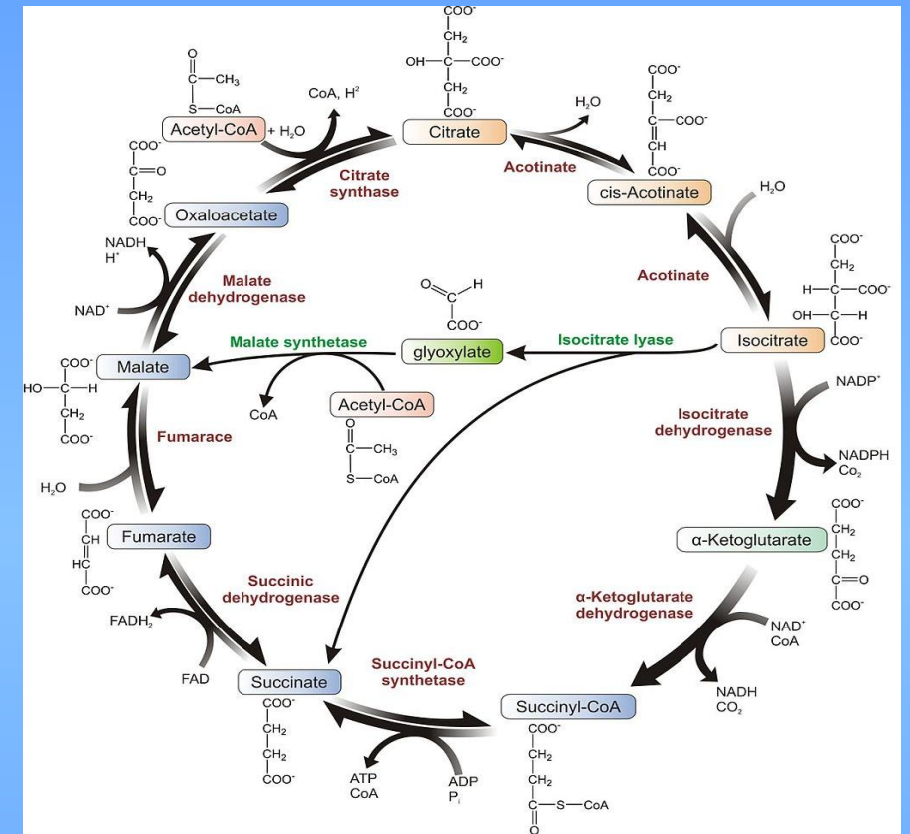
Stage 4: Again within the mitochondria Electrons from the hydrogen are passed down the electron transport chain. The result is 32ATP for every molecule of glucose.



Co-factors for cellular respiration

Some of the micronutrients essential for cellular respiration:-

- ★ Vitamin B complex - particularly vitamin B1 (Thiamine), B2 (Riboflavin) and vitamin B3 (Niacin)
- ★ Magnesium
- ★ Zinc
- ★ Manganese
- ★ Glutathione - master antioxidant
- ★ NAD - a derivative of vitamin B3
- ★ Alpha Lipoic Acid - Lipoate an antioxidant
- ★ Carnite



The methyl groups from this cycle are used by the immune system, production of new cells, neurotransmitter formation, liver detoxification process, protection from oxidative stress.



Stress and it's effects on the body in relation to nutrition

Inflammation, Liver health and elimination issues, low nutrient status

Chronic SNS, digestive shut down, dehydration, allergies, lowered nutrient status

Chronic SNS leading to increased sugar need. Blood sugar regulation. Dysbiosis.

Chronic SNS leading to lowered immune response, low vitamins A, C, and E minerals Zn and Se.

SKIN

skin problems like acne, psoriasis, eczema, dermatitis, random breakouts, and skin rashes

STOMACH

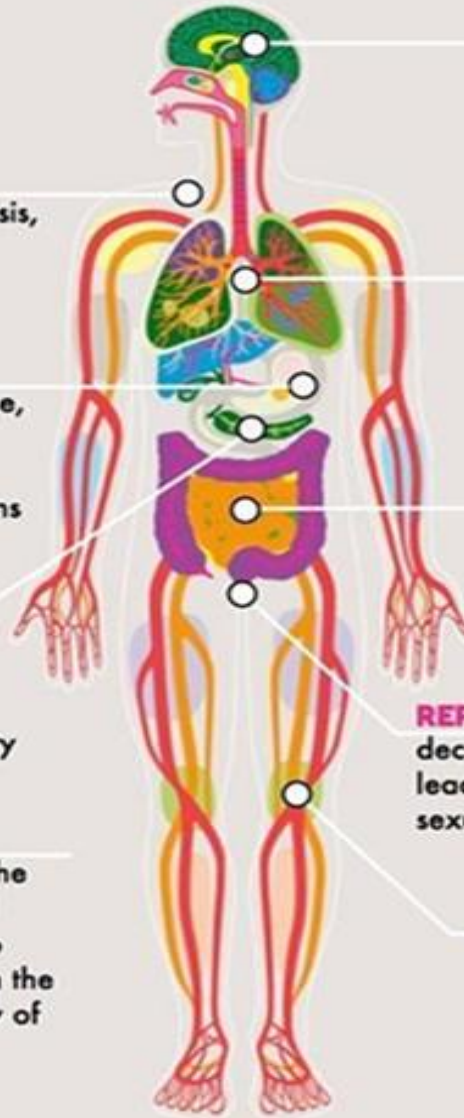
can cause peptic ulcer disease, IBD, IBS, food allergies, stomach cramps, reflux, nausea and weight fluctuations

PANCREAS

results in elevated secretions of insulin, which if chronic could lead to diabetes, damaged arteries and obesity

IMMUNE SYSTEM

suppressed effectiveness of the immune system to battle and recover from illness. Leads to high levels of inflammation in the body, which causes a variety of chronic health conditions



HEAD

issues with mood, anger, depression, irritability, lack of energy, concentration problems, anxiety and panic attacks

HEART

increased blood pressure, fast heart beat, increased risk of heart attack and stroke, and higher cholesterol

INTESTINES

decreased nutrient absorption, reduced metabolism, decreased enzymatic output, increased risk for inflammatory bowel diseases, diabetes, and more

REPRODUCTIVE SYSTEM

decreased testosterone and estradiol production leading to reduced fertility. Dampening of sexual behaviour and loss of sexual drive

JOINTS & MUSCLES

aches and pains, inflammation, tension, lowered bone density (propensity for osteoporosis), tightness in the shoulders and back

Inflammation, Liver health, low nutrient status, blood sugar regulation

Dehydration, low Mg and Vitamin B complex

Dehydration, low vitamin B1, B12, Zn, leaky gut, allergies, blood sugar regulation

Chronic SNS prioritising stress hormones over reproductive. Low nutrients, low healthy fats

Inflammation, dehydration, low Ca, Mg ratio



Anxiety – Medication as a cause

- ★ Stimulants – amphetamine, methylphenidate, dexamethylphenidate
- ★ corticosteroids – Hydrocortisone, Prednisone, Prednisolone, Methylprednisolone, Fluticasone inhaler (Flovent), Dexamethasone
- ★ Caffeine - (OTC) diet pills and headache remedies like Excedrin, BC Powder, and Goody's Powder. Fioricet (butalbital/acetaminophen/caffeine), which is used for migraines.
- ★ Decongestants - pseudoephedrine (Sudafed), phenylephrine and oxymetazoline
- ★ Antihistamine - Diphenhydramine (Benadryl), Loratadine (Claritin), Cetirizine (Zyrtec), Fexofenadine (Allegra), Levocetirizine (Xyzal)
- ★ Rescue inhalers - ProAir, Proventil, or Ventolin contain albuterol.
- ★ Thyroid medications - Levothyroxine (Synthroid) and liothyronine (Cytomel) are synthetic versions of thyroid hormones
- ★ Antidepressants - Citalopram (Celexa), Fluoxetine (Prozac), Escitalopram (Lexapro), Paroxetine (Paxil), Sertraline (Zoloft), Venlafaxine (Effexor), Duloxetine (Cymbalta), Desvenlafaxine (Pristiq)
- ★ Recreational drugs – cannabis, cocaine, lysergic acid diethylamide (LSD), methamphetamine, and phencyclidine (PCP)

Tapering medication



Anxiety – Medical conditions that may present as

- ★ Primary aldosteronism - the body makes too much of the hormone aldosterone.
- ★ Thyroid disorders: over or under active thyroid
- ★ Cushing's syndrome: excess cortisol leads to elevated blood pressure, anxiety, weight gain, and muscle weakness.
- ★ Pheochromocytoma Tumour of the adrenal glands releases catecholamines and can lead to intermittent very high blood pressure, headaches, anxiety, and sweating. 11 Symptoms of pheochromocytoma can be confused with panic attacks.
- ★ Menopause
- ★ Lymes disease
- ★ Guillain-Barre
- ★ Vitamin B12 deficiency
- ★ Gastric bypass surgery
- ★ Central nervous system trauma – head injury
- ★ Alzhemiers
- ★ Myasthenia gravis
- ★ Lupus
- ★ Fibromyalgia
- ★ Porphyria
- ★ Wilson's disease
- ★ Electrolyte imbalance
- ★ Food allergies
- ★ Any chronic illness



Anxiety - Nutritional

Perhaps the most significant biochemical disturbance noted in people with anxiety and panic attacks is an elevated blood lactate level.

Lactate is produced in most tissues especially the muscles

Normally cleared by liver and kidney

Aerobically: pyruvate is produced via glycolysis and then enters the Krebs cycle, bypassing the production of lactates

Anaerobically: lactate is product of glycolysis and feeds into Cori cycle as a substrate for gluconeogenesis

Lactate exists in two isomers: L-lactate and D-lactate

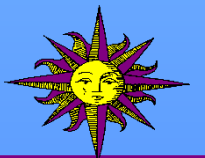
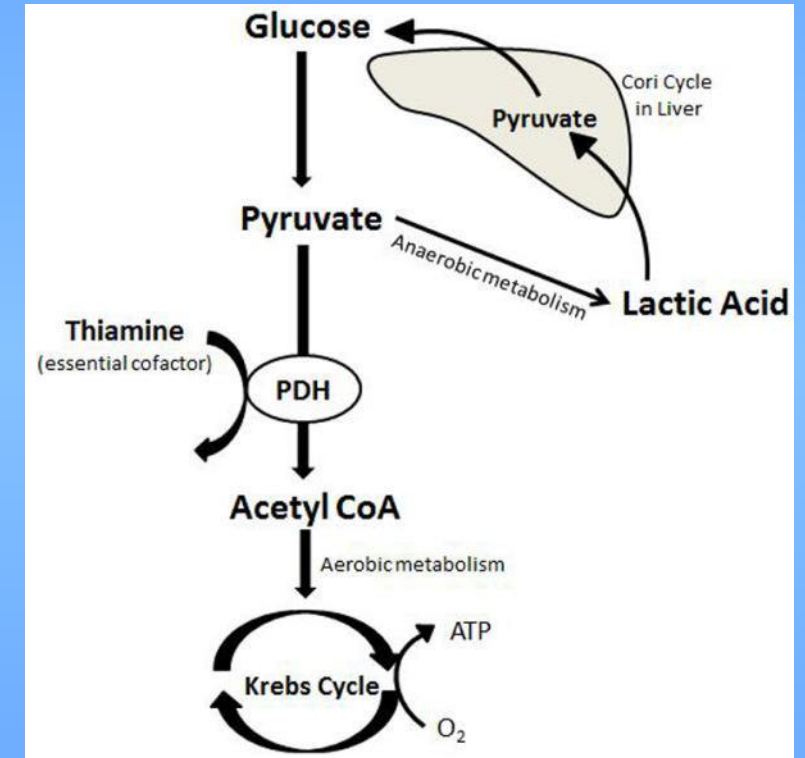
L-lactate is the primary isomer produced in humans

D-lactate is produced by bacteria in the human colon when they are exposed to large amounts of unabsorbed carbohydrates.

High carbohydrate load and a change in the intestinal microflora can lead to increased D-lactate which can cross into the blood stream and cause neurological symptoms

Aerobic and anaerobic metabolism

ATP = Adenosine triphosphate; CoA = Coenzyme A; PDH = Pyruvate dehydrogenase



Anxiety - Causes of elevated lactate

Shock

- Distributive
- Cardiogenic
- Hypovolemic
- Obstructive

Post-cardiac arrest

Regional tissue ischemia

- Mesenteric ischemia
- Limb ischemia
- Burns
- Trauma
- Compartment syndrome
- Necrotizing soft tissue infections

Diabetic ketoacidosis

Drugs/toxins

- Alcohols
- Cocaine
- Carbon monoxide
- Cyanide

Pharmacological agents*

- Linezolid
- Nucleoside reverse transcriptase inhibitors
- Metformin
- Epinephrine
- Propofol
- Acetaminophen
- Beta2 agonists
- Theophylline

Anaerobic muscle activity

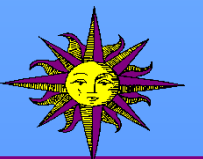
- Seizures
- Heavy exercise
- Excessive work of breathing

Thiamine deficiency

Malignancy

Liver failure

Mitochondrial disease



Anxiety- Causes of elevated lactate

There are at least six nutritional factors that may be responsible for an elevated ratio of lactic acid to pyruvic acid:

Alcohol – depletion of vitamin B1 et al

Caffeine – adrenal stimulant – stress hormone response

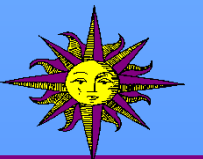
Sugar – depletion of vitamin B1 et al

Deficiency of the B-vitamins niacin, pyridoxine, and thiamine

Deficiency of calcium or magnesium – transport needed to carry B vitamins

Food allergens – mass internal stress and inflammation

This would also link in with fermented foods such as sauerkraut and kimchi which produce lactanes.



Anxiety - Nutrition

A Traditional Mediterranean diet – rich in vegetables, fruits, meat (chicken and oily fish), activated nuts, seeds, cereals and legumes, seafood – fish and vegetables - seaweeds, fermented foods, health oils, eggs, microgreens.

Food ideally homemade from spray free sources.

Drink plenty of water each day 30ml per kg weight minimum. Ensure electrolytes are balanced, using sole recipe - Himalayan / Celtic Sea salt to ensure hydrations

Limit caffeinated drinks – drink a glass of water before each one to help with hydration.

Limit alcohol.

Limit sugar and foods rich in simple sugars (simple carbohydrates).

Limit highly processed, junk and take out foods.

Avoid and eliminate foods you have a sensitivity too - Dairy, Gluten, Soy, Shellfish, Peanuts and Eggs are the common ones.

Eat food in a relaxed environment, when you have chance to slowly eat your food.

Make sure you thoroughly chew each piece of food.

Eat liquid foods like vegetable based smoothies sweetened with apple and berries or bone broth soups to get nutrients easier to digest foods when appetite is weak.



Mediterranean Diet

The Mediterranean diet is being shown to help improve physical and mental health.

Low in processed foods and sugar, that are harmful for the body and nutrient bereft.

The Mediterranean diet focuses on proteins notably plant proteins (nuts, seeds and legumes) as well as pasture raised poultry, oily fish and ruminant animals.

Proteins help to reduce feeling of hunger and help the body replace vital tissue.

Mediterranean Foods:-

Fresh fruit and vegetables (green leafys, eggplants, brassicas, artichokes, tomoatoes, cucumber, olives, herbs).

Nuts, seeds, legumes and whole grains (ideally activated – soaked and/or sprouted).

Eggs and dairy (if tolerant)

Wild fresh caught fish (twice a week)

Moderate high quality pasture raised poultry

Red meat – once a week

Plenty of water

Healthy fats (olive, coconut, avocado – not vegetable or cereal based fats).

Example meal plan

Breakfast

Fuit (apple, pear, berries) and yoghurt

Oatmeal with nut milk and honey

Eggs, vegetables, salmon

Whole grain breads with salmon.

Lunch

Soup and bread

Salad, nuts, seeds, cheese

Humus grilled vegetables

Piece of fruit

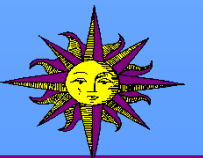
Dinner

Similar to lunch

Lean meat and vegetables

Nuts, seeds, olive oil

Oily fish, couscous.



Anxiety - Nutritional Supplements

A high-potency multiple vitamin and mineral formula – **Be Pure multivitamin** – food based taken with food - 3 capsules breakfast, 2 capsules lunch time

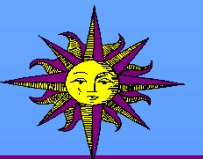
Key individual nutrients:

- ★ **Calcium:** 1,000 mg per day - Lifestream
- ★ **Magnesium:** 350 to 500 mg per day. - Lifestream
- ★ **Vitamin B6:** 25 to 50 mg per day (Now supplements P5P)
- ★ **Vitamin B9 Folate:** 800 mcg per day (Biobalance B complex)
- ★ **Vitamin B12:** 800 mcg per day (Clinicians or)
- ★ **Fish oils:** 1,000 to 3,000 mg EPA + DHA per day – Nordic Natural Cod Liver Oil (CLO) or Greenpastures (Fermented Cod Liver Oil) – Vitamins A, D, K and EFA 1/2 a teaspoon once a day
- ★ **Flaxseed oil:** 1 tbsp per day

One of the following:

- ★ **Grape seed extract** (>95% procyanidolic oligomers): 100 to 300 mg per day
- ★ **Pine bark extract** (>95% procyanidolic oligomers): 100 to 300 mg per day
- ★ Or some other flavonoid-rich extract with a similar flavonoid content, “super greens formula,” or another plant-based antioxidant that can provide an oxygen radical absorption capacity (ORAC) of 3,000 to 6,000 units or more per day

Complete C Vitamin C powder contains the above 1/4 teaspoon once a day 1.4g



Anxiety - Botanical Medicines

One of the following:

Chinese or Korean ginseng (*Panax ginseng*):

- High-quality crude ginseng root: 1.5 to 2 g one to three times per day
- Fluid extract

Siberian ginseng (*Eleutherococcus senticosus*)

- Dried root: 2 to 4 g one to three times per day
- Fluid extract

Rhodiola (*Rhodiola rosea*):

- Dried herb 1 teaspoon infused in boiling water for 10 minutes, three times a day
- Fluid extract

Ashwagandha (*Withania somnifera*)

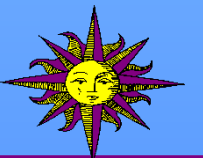
- equivalent to Sensoril: 125 to 250 mg per day²²
- Dried herb
- Fluid extract

Kava (*Piper methysticum*):

- dosage equivalent to 45 to 70 mg kavalactones three times per day
- Dried herb
- Fluid extract

Milkthistle (*Silybum marianum*)

- Dried seeds 1 teaspoon infused in boiling water for 10 minutes, three times a day
- Fluid extract



Anxiety - Kava

Kava (*Piper methysticum*) extract or tea has produced relief from anxiety comparable to that from drugs such as Valium.

Kava is a Polynesian plant that has been used in social and spiritual ceremonies in Island nations such as Samoa and Vanuatu. In recent years it has become more popular in Western Nations.

A clinical study on the efficacy of the kava plant for Generalized Anxiety Disorder (GAD) reported that kava is safe when consumption doesn't exceed 280 mg per day.

Kava was linked with liver issues including failure and deaths, then banned in a number of countries, however the studies on Kava failed to take into account possible liver issues from other circumstances, including

- the chances of experiencing liver "injury" is 1 in 1 million daily kava doses

- pre-existing liver problems

- alongside other substances (like alcohol and other drugs)

- contaminants

- kava root is prepared and what it's consumed

- 2014, two German courts determined the link between Kava and liver complications was not "well-established"

- Bans were then lifted in many countries

As an aid to caution, do not give to people with liver issues.

Use St Mary's Thistle (*Silybum marianum*) to support liver health (hepato protector and hepato regenerator) .



Anxiety – Lifestyle strategies

Breathing exercises

Relaxation

Visualisation

Meditation

Yoga, Tai chi, Qigong

Coping strategies:- Positive affirmations, Gratitude, Reframing

Forest bathing – connecting with nature

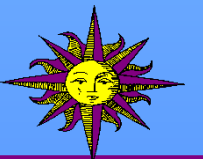
Exercise

Talking therapy

Hobbies and interests

Journalling

Sleep management strategies – including supplementation

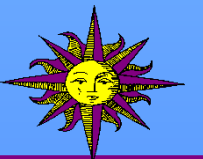


Depression

Depression is a mood disorder and this is when there is persistently a low mood, more so than common reaction to life presentation. This can be severe and presentation as some people commit suicide.

Common presentation include:-

- ★ Persistent low mood
- ★ Poor sleep, tiredness, fatigue and exhaustion
- ★ Digestive Problems - IBS
- ★ Poor appetite
- ★ Poor motivation
- ★ Decreased concentration and focus
- ★ Poor short and long term memory
- ★ Poor cognitive function
- ★ Changes in perception and perspective
- ★ Aches and pains
- ★ Irritability
- ★ Lack of libido
- ★ Feelings of guilt and regret
- ★ Negative focus
- ★ Loss of interest in activities of daily living – work, education, hobbies and interests
- ★ Loss of interest in relationships
- ★ Withdrawal from socialisation and social network
- ★ Thoughts of deliberate self harm and suicide



Depression Diagnostic Criteria 311 Depressive Disorder Not Otherwise Specified

The Depressive Disorder Not Otherwise Specified category includes disorders with depressive features that do not meet the criteria for Major Depressive Disorder, Dysthymic Disorder, Adjustment Disorder With Depressed Mood (see p. 623), or Adjustment Disorder With Mixed Anxiety and Depressed Mood (see p. 624). Sometimes depressive symptoms can present as part of an Anxiety Disorder Not Otherwise Specified (see p. 444). Examples of Depressive Disorder Not Otherwise Specified include

1. Premenstrual dysphoric disorder: in most menstrual cycles during the past year, symptoms (e.g., markedly depressed mood, marked anxiety, marked affective lability, decreased interest in activities) regularly occurred during the last week of the luteal phase (and remitted within a few days of the onset of menses). These symptoms must be severe enough to markedly interfere with work, school, or usual activities and be entirely absent for at least 1 week postmenses (see p. 715 for suggested research criteria).
2. Minor depressive disorder: episodes of at least 2 weeks of depressive symptoms but with fewer than the five items required for Major Depressive Disorder (see p. 719 for suggested research criteria).
3. Recurrent brief depressive disorder: depressive episodes lasting from 2 days up to 2 weeks, occurring at least once a month for 12 months (not associated with the menstrual cycle) (see p. 721 for suggested research criteria).
4. Postpsychotic depressive disorder of Schizophrenia: a Major Depressive Episode that occurs during the residual phase of Schizophrenia (see p. 711 for suggested research criteria).
5. A Major Depressive Episode superimposed on Delusional Disorder, Psychotic Disorder Not Otherwise Specified, or the active phase of Schizophrenia.
6. Situations in which the clinician has concluded that a depressive disorder is present but is unable to determine whether it is primary, due to a general medical condition, or substance induced.



Depression

Depression can be reactive in response to an external situation such as abuse, loss, stress, trauma.

Endogenous depression is in response to an internal stress, cognitive or biological process. It is also linked with treatment resistant depression.

Women are more likely to have depression than men.

Global statistics

Estimations indicate 3.8% of the population experience depression

5% of adults (4% among men and 6% among women)

5.7% of adults older than 60 years

Approximately 280 million people have depression (1).

10% of pregnant women and women who have just given birth experience depression (2).

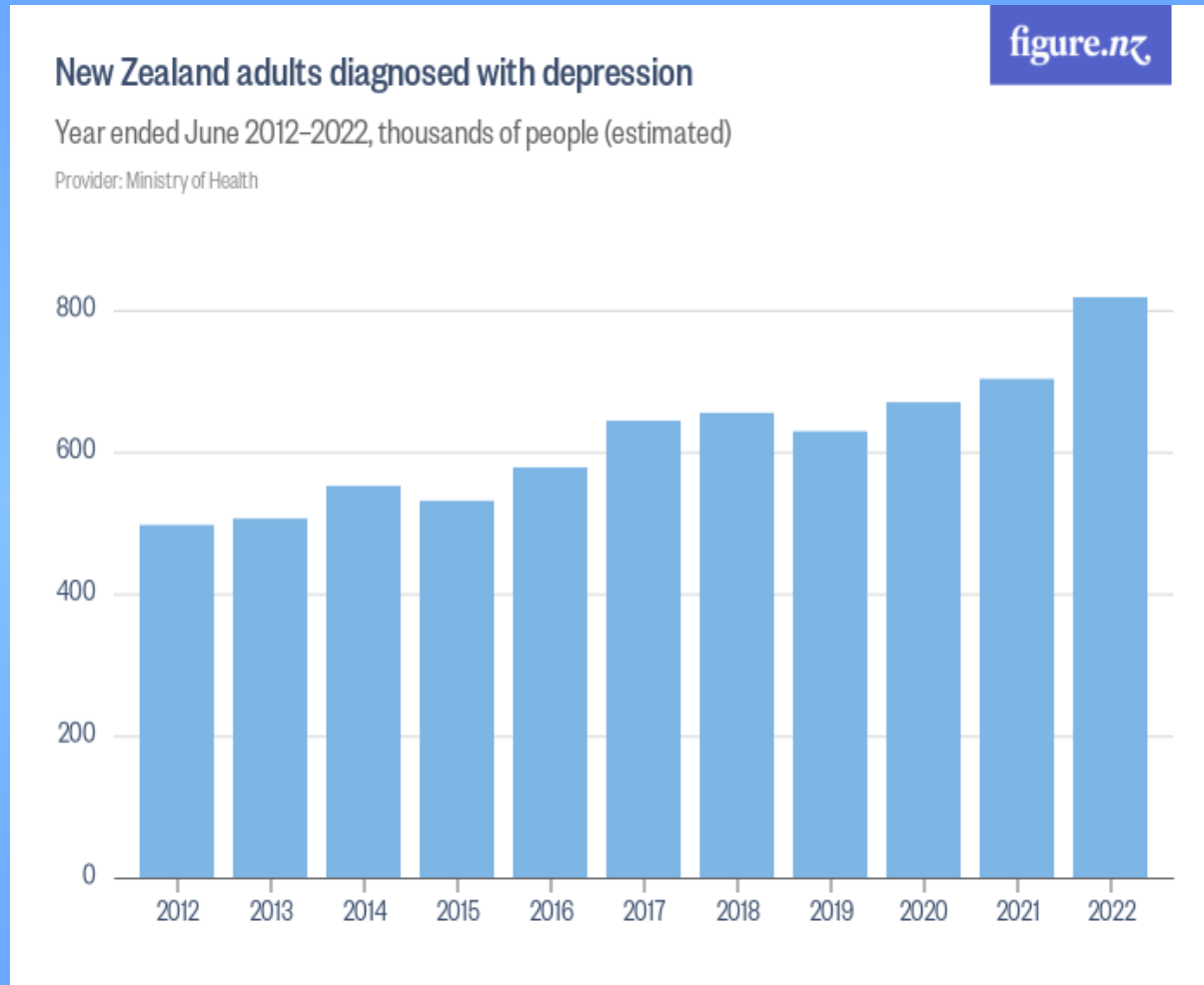
More than 700 000 people die due to suicide every year.

Suicide is the fourth leading cause of death in 15–29-year-olds.

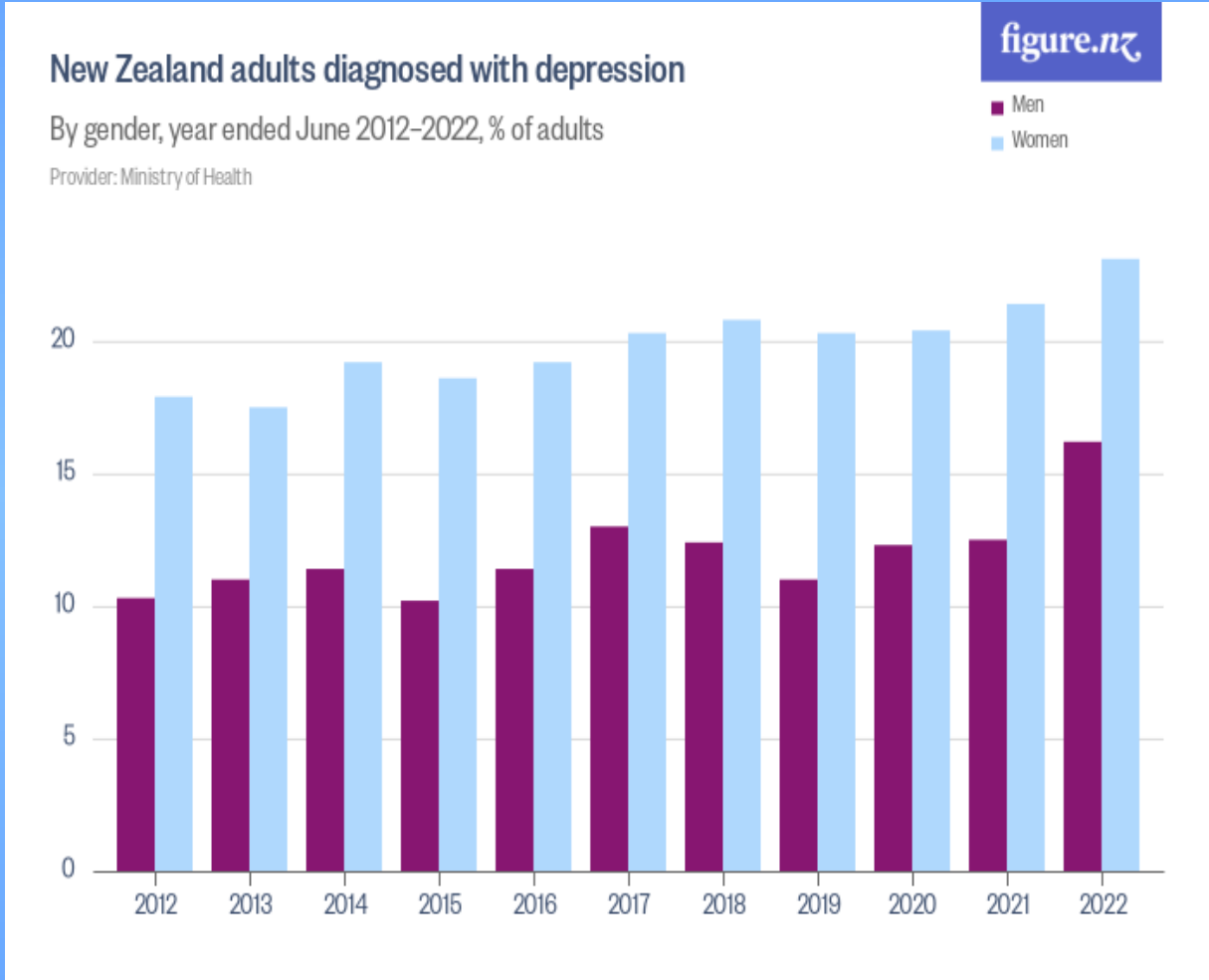
(Institute of Health Metrics and Evaluation, 2023; Wood et al 2017, World Health Organisation 2024).



Depression – NZ Statistics MOH 2022



Depression – NZ Statistics MOH 2022



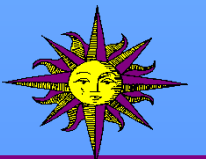
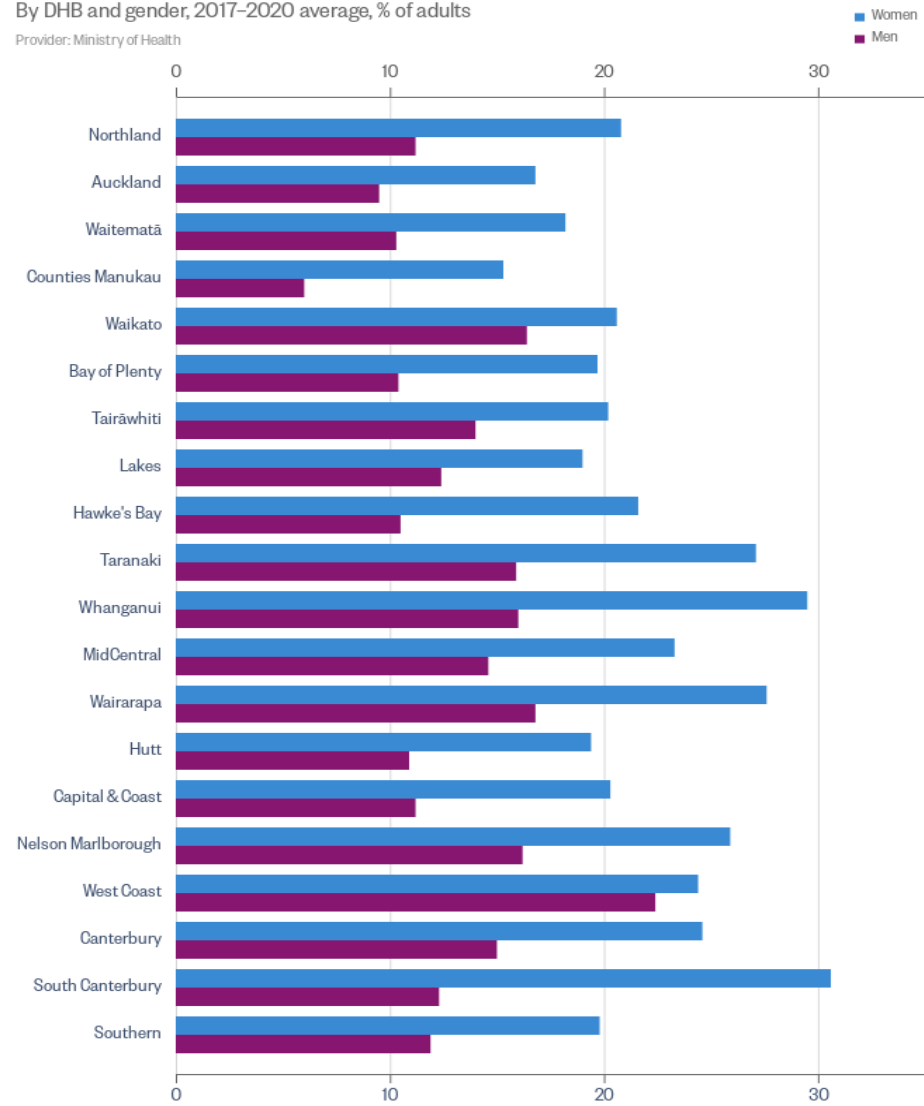
Depression – NZ Statistics MOH 2020

New Zealand adults diagnosed with depression

By DHB and gender, 2017-2020 average, % of adults

Provider: Ministry of Health

figure.nz



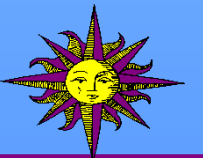
Depression - Causes

Commonly viewed causes

- ★ Hormone imbalance – PMS, PND, et al
- ★ Brain Chemistry – Imbalance in neurochemicals
- ★ Genetics and Family History - Predisposition
- ★ Trauma – Part of process
- ★ Brain Structure – Injury, trauma and concussion
- ★ Illness
- ★ Substance and alcohol use
- ★ Pain

Other factors

- ★ Other illnesses and comorbidities
- ★ Dysfunction of other body system
- ★ Adverse effects of medication
- ★ Toxins exposure – moulds, agrichemicals, poisons, allergens etc.
- ★ Methylation
- ★ Liver overload
- ★ Blood sugar dysregulation
- ★ Inflammation
- ★ Nutrient imbalance and deficiency



Depression – Causes, Adverse effects of medication

Acne: Isotretinoin (Absorica , Amnesteem , Claravis, Sotret)

Alcohol:

Anticonvulsants: ethosuximide (Zarontin) and methsuximide (Celontin).

Barbiturates: T phenobarbital and secobarbital.

Benzodiazepines: anxiety and insomnia and to relax muscles; examples include alprazolam (Xanax), clonazepam (Klonopin), chlordiazepoxide (Librium), diazepam (Valium), flurazepam (Dalmane), lorazepam (Ativan), and triazolam (Halcion).

Interferon alfa: This drug is used to treat certain cancers as well as hepatitis B and C.

Opioids: spirin/oxycodone (Percodan), codeine, meperidine (Demerol), morphine, and oxycodone (OxyContin).

Smoking cessation: Varenicline (Chantix)

Herpes and Shingles: Acyclovir (Zovirax):

Seizures and Parkinson's disease: GABA neurotransmitter system - Levodopa, carbidopa (Lodosyn), levetiracetam (Elepsia XR, Keppra, lorazepam (Ativan), methsuximide (Celontin), oxcarbazepine (Trileptal, Oxtellar XR), phenytoin (Dilantin, Phenytek), pregabalin (Lyrica), phenobarbitaltiagabine (Gabitril), topiramate (Topamax), valproic acid, carbamazepine (Carbatrol, Tegretol), clonazepam (Klonopin), diazepam (Valium, Diastat), ethosuximide (Zarontin), gabapentin (Neurontin), lamotrigine (Lamictal), zonisamide (Zonegran)

Migraines: Flunarizine (Sibelium) Calcium channel blocker

Cardiovascular: angiotensin converting enzyme (ACE) inhibitors, beta-blockers, calcium channel blockers, anti-adrenergic agents, thiazide diuretics, cholesterol-lowering medications such as statins

clonidine (Kapvay), guanethidine, methyl dopa, reserpine, atenolol (Tenormin), propranolol (Inderal), betaxolol (Betoptic S), bendroflumethiazide/nadolol (Corzide), enalapril (Vasotec, Innovace), metoprolol (Lopressor), nisoldipine (Sular), quinapril (Accupril), telmisartan (Micardis), trandolapril

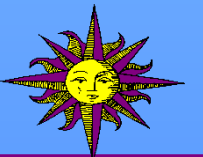
Antibiotic and cold medications - Common antibiotics and anti-infective medications that may be linked to depression include: quinolones such as ciprofloxacin (Cipro) and levofloxacin (Levaquin), cycloserine (Seromycin), ethionamide (Trecator), metronidazole (Metrogel, MetroCream)

Antidepressant medications: SSRI -citalopram (Celexa), escitalopram (Lexapro), fluoxetine (Prozac), paroxetine (Paxil), sertraline (Zoloft), fluvoxamine (Luvox), vilazodone (Viibryd). Other antidepressants - amitriptyline (Elavil), bupropion (Wellbutrin), clomipramine (Anafranil), desipramine (Norpramin), desvenlafaxine (Pristiq), doxepin (Sinequan), duloxetine (Cymbalta), imipramine (Tofranil), milnacipran (Savella), mirtazapine (Remeron), nefazodone (Serzone), nortriptyline (Pamelor), phenelzine (Nardil), protriptyline (Vivactil), selegiline (Emsam), trazodone (Olepto), venlafaxine (Effexor)

Anticancer: procarbazine (Matulane), tamoxifen, vincristine (Marqibo), vinblastine (Velban), paclitaxel (Taxol, Abraxane), docetaxel (Taxotere, Docefrez)

OCP: anastrozole (Arimidex), bicalutamide, cabergoline, conjugated estrogens, desogestrel, drospirenone, estradiol (Delestrogen, Yuvafem), esterified estrogens (Menest), estropipate (Ogen), ethinyl estradiol, etonogestrel, exemestane (Aromasin), goserelin (Zoladex), hydroxyprogesterone, medroxyprogesterone (Depo-Provera), megestrol, norethindrone (Jencycla, Norlyda), tamoxifen (Soltamox), testosterone, leuprolide (Lupron), levonorgestrel (Mirena, Kyleena), oxandrolone (Oxandrin), progesterone

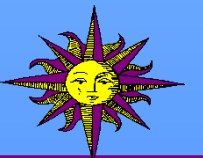
Corticosteroids: prednisone, cortisone, hydrocortisone



Depression – Orthodox Treatment

Standard treatments:-

- ★ GP
- ★ Medication: SSRI, SNRI, Hypnotics,
- ★ HIP: worker preventative work / talk therapy / coping mechanisms, / life changes
- ★ Referrals 6 free PHO counselling / psychology sessions – CBT, talking therapy
- ★ Green prescription
- ★ EAP
- ★ Network
- ★ Medical – Comorbidity / Illness / Pain
- ★ NGOs – i.e. Grief support, Whanau support, Financial Mentors, Employment support, Support Groups, Accommodation, Food and Welfare, Abuse, Addiction, Education, Culture, Advocacy.
- ★ Outreach facilities
- ★ Kaupapa / Pacifica organisations
- ★ Whanau ora navigators
- ★ Social workers
- ★ Rongoā practitioners
- ★ Rehab and respite facilities
- ★ Brief Intervention counsellors



Depression – Orthodox Treatment

- ★ Community Mental Health
- ★ Case manager
- ★ MDT
- ★ Medical and psychological appointments
- ★ Group work
- ★ Networking
- ★ Inpatient
- ★ Respite
- ★ Supported accommodation

Websites

<https://www.depression.org.nz/get-help>

<https://mentalhealth.org.nz/groups>

<https://mentalhealth.org.nz/conditions/condition/depression>

<https://www.cab.org.nz/article/KB00001510>

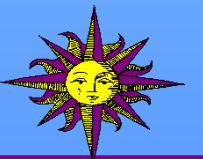
<https://health.govt.nz/products/there-is-a-way-through-a-guide-for-people-experiencing-stress-depression-and-anxiety>

<https://www.smallsteps.org.nz/>

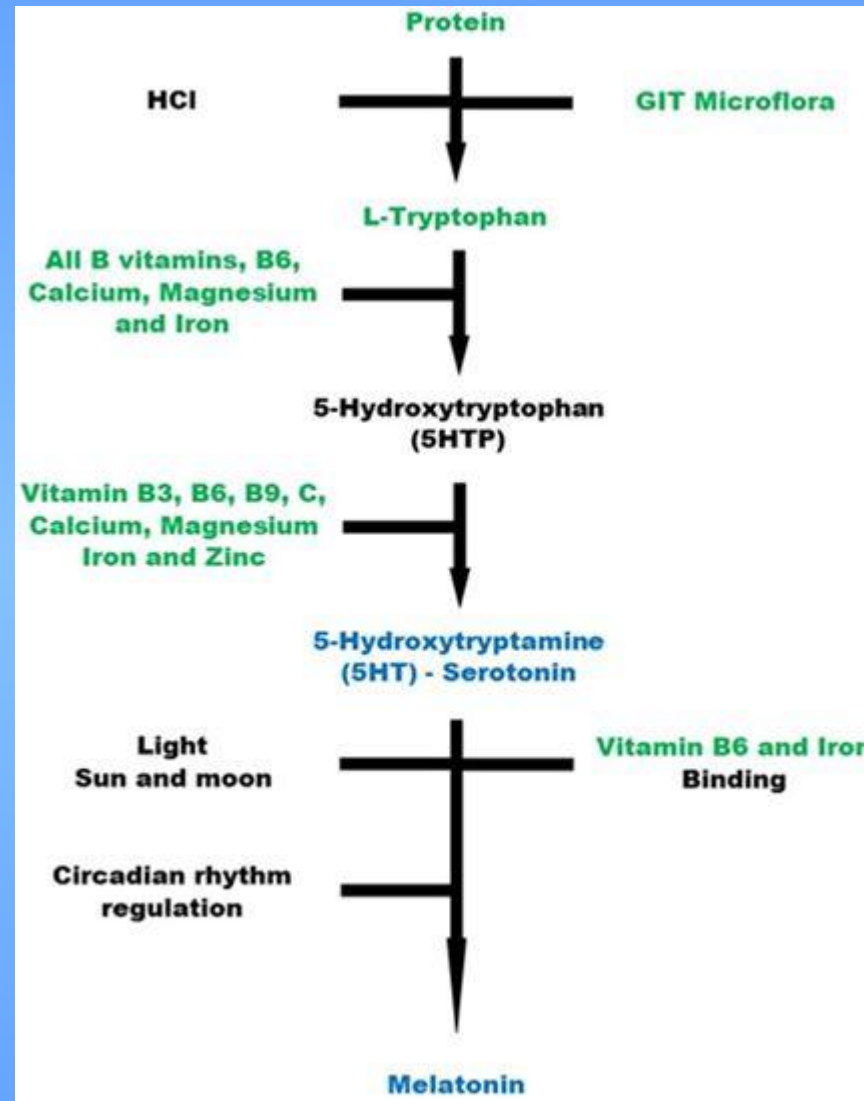
<https://www.justathought.co.nz/>

<https://beatingtheblues.co.nz/>

<https://www.dsn.org.nz/>

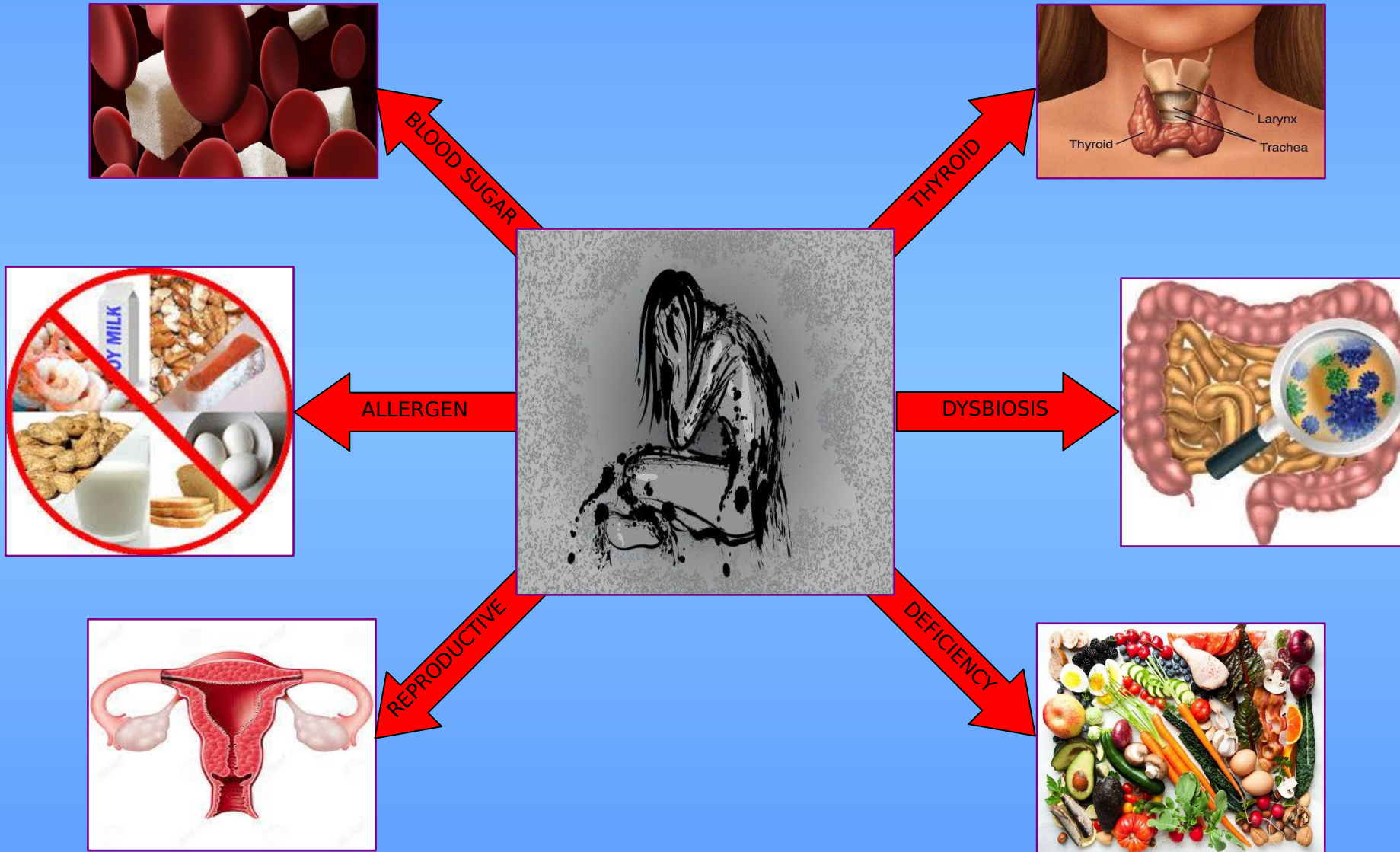


Depression



Depression – Comorbidities

A third of all people with chronic illness will experience depression, linking it with inflammation and nutrient deficiencies. These are the most common comorbidities of depression.

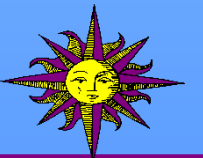


Depression – Medication NZF 2024

Drug	Anticholinergic effects	Sedation	Orthostatic hypotension	Sexual dysfunction	Weight gain	Insomnia	GI effects	QT interval prolongation
SSRIs								
Citalopram - $C_{20}H_{21}FN_2O$	-	- to +	-	+++	- to +	++	++	+
Escitalopram - $C_{20}H_{21}FN_2O$	-	- to +	-	++	- to +	++	++	+
Fluoxetine - $C_{17}H_{18}F_3NO$	-	-	-	+++	- to +	++	++	+
Fluvoxamine - $C_{15}H_{21}F_3N_2O_2$	-	- to +	-	+++	- to +	++	+++	- to +
Paroxetine - $C_{19}H_{20}FNO_3$	+	+	-	+++	+	++	++	- to +
Sertraline - $C_{17}H_{17}Cl_2N$	-	-	-	+++	- to +	++	+++	- to +
Tricyclic antidepressants								
Amitriptyline - $C_{20}H_{24}ClN$	+++	+++	+++	++	+++	-	- to +	+++
Clomipramine - $C_{19}H_{24}Cl_2N_2$	++	++	+++	+++	+++	- to +	- to +	+++
Dosulepin - $C_{19}H_{21}NS$	++	+++	+++	++	+++	+	+	+++
Doxepin - $C_{19}H_{21}NO$	+++	+++	++	++	+++	-	-	+++
Imipramine - $C_{19}H_{25}ClN_2$	+++	++	+++	++	+++	+	- to +	+++
Nortriptyline - $C_{19}H_{22}ClN$	+	+	++	++	+	-	-	+++
Trimipramine - $C_{20}H_{26}N_2$	++	+++	+++	++	+++	- to +	-	+++
Tricyclic related antidepressants								
Maprotiline - $C_{20}H_{23}N$	+	++	+	?	+	-	-	++
MAOIs								
Phenelzine - $C_8H_{12}N_2$	+	+	+	+++	++	- to +	+	-
Tranylcypromine - $C_9H_{11}N$	+	-	+	+++	+	- to +	+	-
Moclobemide - $C_{13}H_{17}ClN_2O_2$	-	-	-	+	-	++	++	+
Others								
Mirtazapine - $C_{17}H_{19}N_3$	+	+++	- to +	+	+++	+	+	+
Reboxetine - $C_{19}H_{25}NO_3$	+	- to +	-	+	?	+++	+	-
Venlafaxine - $C_{17}H_{27}NO_2$	- to +	- to +	-	+++	-	++	+++	+
Bupropion - $C_{13}H_{18}ClNO$	-	-	-	-	-	+	- to +	+

Approximate relative frequencies of adverse effects:

- +++ Relatively common
- ++ Moderate
- + Low
- Absent or rare
- ? No information available



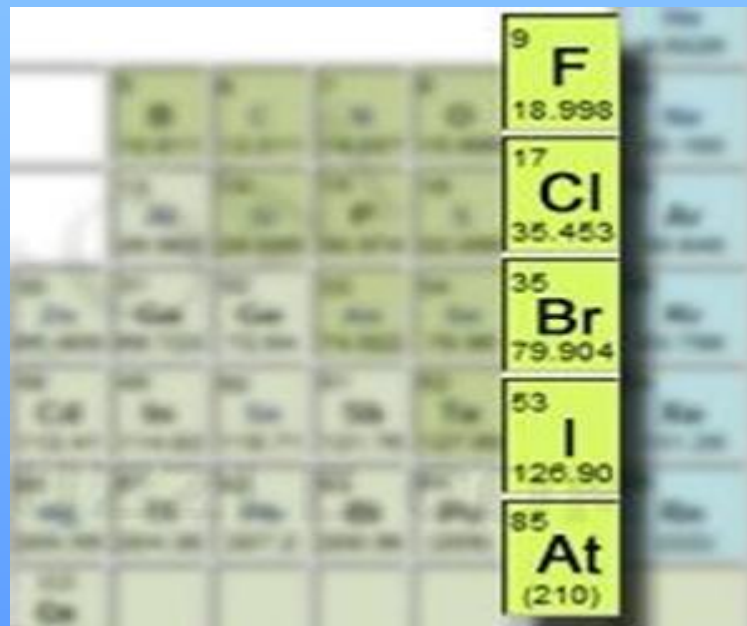
Depression – Medication

Halogen Group

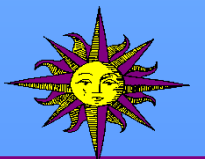
The elements higher up the group displace those lower down as they are more reactive. Therefore Iodine a vital substance for thyroid function may be displaced by Fluorine and Chlorine which are present in certain types of medication.

These are really important things to note with medication as these will affect the choices needed to support the client and formulate an effective treatment plan.

Addressing nutritional changes caused by medication may well reduce non compliance due to adverse effects in medication. This may promote recovery and lessen deterioration of mental state and significant effects such as suicidal ideation



9	F	18.998
17	Cl	35.453
35	Br	79.904
53	I	126.90
85	At	(210)



Depression - Thyroid

Hypothyroidism can present as depression

Morning temperature

Approximately 90% autoimmune – Hashimotos

High TSH

Nutritionally:

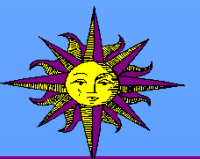
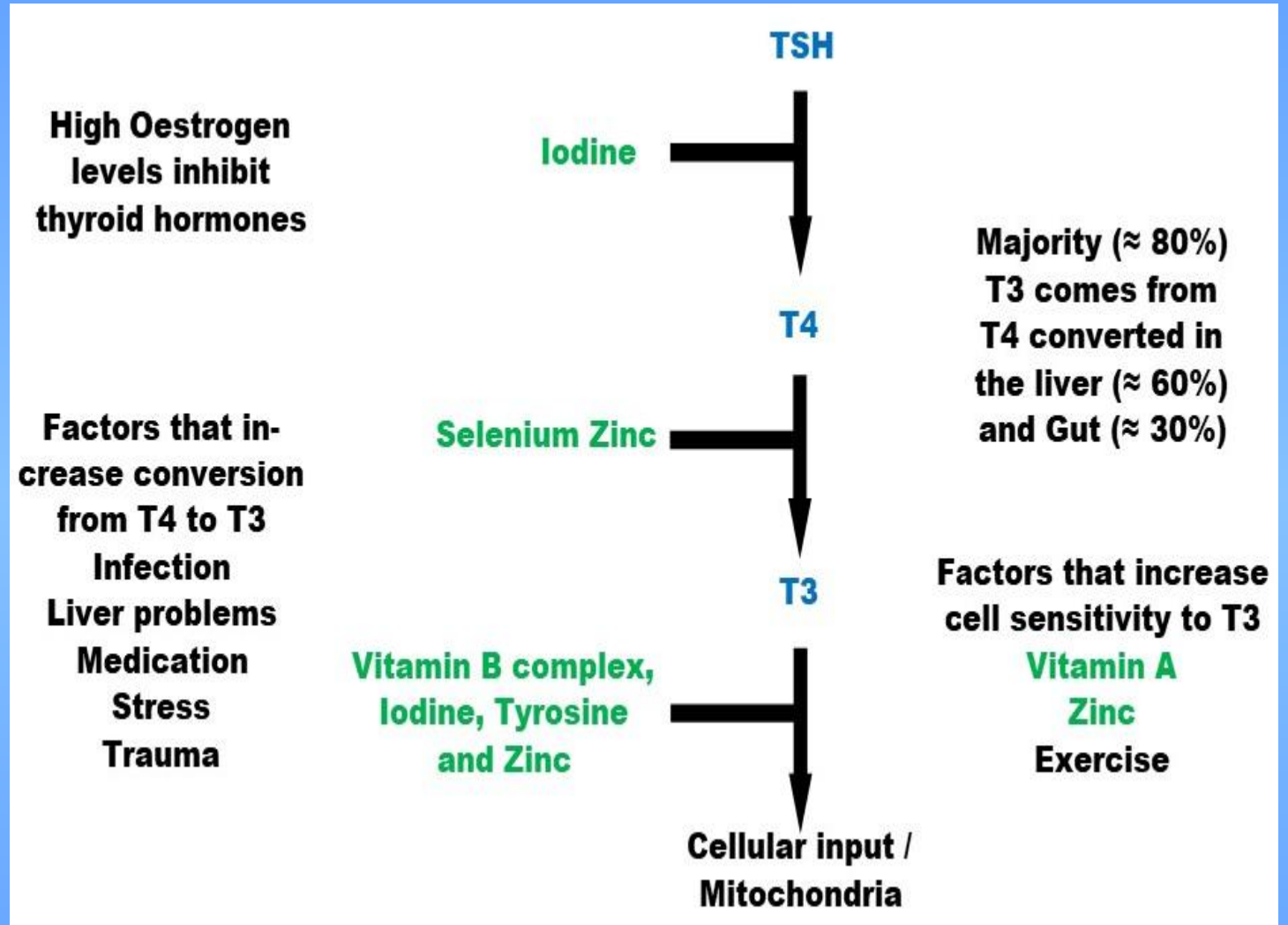
Gluten and dairy sensitivity (casein)

Methylation issues MTHFR

Food based / methyl vitamin B complex

Methionine

Traditional Mediterranean diet



Depression - Dysbiosis

Indigestion and imbalance in the digestive microbiome

Caused by:-

- ★ high sugar / alcohol intake
- ★ high simple carbohydrate processed diet
- ★ low B vitamins
- ★ High levels of stress and trauma
- ★ Certain medications such as antibiotics – 6 month recovery time

Corrected by

Traditional Mediterranean diet

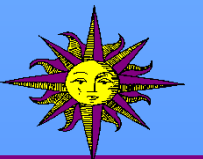
Pre and probiotics, digestive enzymes – half an hour before food plus glass of water

Reduction and elimination of simple sugars and alcohol

Supplementation of nutrients particularly food based B vitamins

Digestive herbs to soothe – i.e. Marshmallow (*Althea officinalis*) protect mucus membranes, Calendula (*Calendula officinalis*) vulnerary, Turmeric (*Curcumin longa*) anti-inflammatory, hepatoprotective.

Remove stress or manage - breathing, relaxation, visualisation, exercise



Depression – Reproductive Health

Often presents with a cyclic depressive presentation in females

Presentation is also linked in with nutrient status, trauma and stress

Lack of libido in general is linked with high levels of stress

Common adverse effect in medication

Impacted by high levels of sugar and alcohol – lower B vitamins

PMD – linked in with low levels of Magnesium, vitamin B6 and Essential fatty acids – omega 3

PCOS is linked with blood sugar regulation, weight management, female / male hormone imbalance – higher levels of testosterone / androgens, food sensitivities

Endometriosis – Linked with nutrient deficiencies, immunological issues, toxin exposure.

There are correlation to sexual trauma and sexual health

Reproductive health needs Vitamin B complex, vitamins A, C, D, E, minerals, Zn, Se, EFA, EAA.

Lack of body mass and key nutrients lead to reproductive imbalance and infertility.

Food diaries and menstrual charts can be used to help



Depression - Allergens

Any food allergen will cause mass inflammation in the digestive tract and therefore impact the function on the nervous system

Presentation

Indigestion

Leaky gut – intestinal hyperpermeability disease

Malabsorption

Bloating

Pain and discomfort

IBS with diarrhoea and / or constipation

Most common allergens / sensitivities

Wheat – gluten

Diary – Lactose and Casein

Eggs

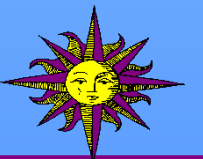
Soy

Shellfish

Peanuts

Nuts

Solinacea family (potatoes, tomatoes, peppers, egg plants)



Depression – Blood sugar dysregulation

Blood sugar dysregulation is caused by a diet that is high in simple and processed carbohydrates. Diet often contains many baked goods, candy, fizzy drinks, alcohol and processed food, often lacking vegetables, fruit and whole food.

Simple sugar and alcohol increases the stress on the body and B vitamins used. Lack of B vitamins impacts neurochemical balance.

Plan:

Decrease simple processed sugar

Eat more protein – hand full of healthy protein each meal

More foods rich in Magnesium (legumes, wholegrain cereals, nuts, brewer's yeast, kelp, avocado, dark green vegetables, cocoa, soy flour, seeds, mineral and hard water, dairy products, fish, meat, and seafood) and Chromium (Brewers yeast / nutritional yeast, beef, liver, whole wheat, rye and brown rice, cheese, oysters, peas, green peppers, potatoes, mushrooms, broccoli, apples, bananas, spinach, molasses and black pepper) as these help regulate blood sugar.

Herbs such as Dandelion leaf (*Taraxacum officinale folia*)



Depression - Nutritional Supplements

A high-potency multiple vitamin and mineral formula – **Be Pure multivitamin** – food based taken with food - 3 capsules breakfast, 2 capsules lunch time

Key individual nutrients:

- ★ **Vitamin B6:** 25 to 50 mg per day (Now supplements P5P)
 - ★ **Complete C Vitamin C powder** contains both Grape seed and pine bark extract. 1/4 teaspoon once a day 1.4g
 - ★ **Fish oils:** 1,000 to 3,000 mg EPA + DHA per day – Nordic Natural Cod Liver Oil (CLO) or Greenpastures (Fermented Cod Liver Oil) – Vitamins A, D, K and EFA 1/2 a teaspoon once a day
- Lifestream** Probiotics mood and immune 1 capsule daily

OR follow the fermented food protocol

Days 1-2: ½ teaspoon fermented vegetable juice once a day

Days 3-4: ½ teaspoon of fermented vegetable juice twice a da

Days 5-6: ½ teaspoon of fermented vegetables am, ½ teaspoon of fermented vegetable juice pm

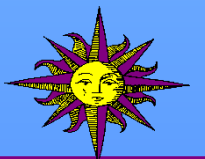
Days 7-8: ½ teaspoon of fermented vegetables twice a day

Days 9-10: 1 teaspoon of fermented vegetables am plus ½ a teaspoon pm

Days 11-12: 1 teaspoon of fermented vegetables twice a day

Days 13+: Continue

Please note this is a baseline prescription, this would vary according to the type of depression and signs and symptoms of nutrient imbalance.



Nutrient Imbalances and deficiencies

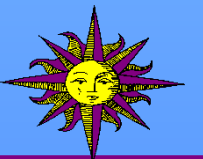
As can be clearly seen the impacts of stress, trauma, illness, toxin exposure, nutrient intake, external and internal factors all impact on the body's nutrient status.

Many signs and symptoms of illnesses are also signs and symptoms and nutrient imbalances and deficiencies. i.e. restlessness – low Magnesium or Mg:Ca imbalance, lack of smell and taste – low Zn levels, difficulty falling asleep low vitamin B complex.

Any macro or micronutrient imbalance can have a profound impact on body and mental health.

Every cell in our body is made from the food we eat.

If we eat the wrong food it can be the equivalent of attempting to run a petrol car on diesel or the wrong grade of petrol, it won't work. The food we eat is the fuel and repair mechanism for our body.



Reading List

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- 16 Rucklidge, J. & Kaplan B (2023) *The Better Brain*. London Penguin.

