Depression & Anxiety

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Aims of the Webinar

• Examine what regulates our mood; the interplay of brain chemicals and hormones

• Different manifestations of depression & anxiety

• Holistic nutritional support & specific brain health nutrients
Depression & Anxiety

• Combined anxiety & depression is the most common mental disorder in UK (Office of National Statistics)

• Up to 12% of the UK population experience depression in any year (Office of National Statistics)

• World Health Organisation: globally, depression is the leading cause of disease in high income countries
 Symptoms

• **Depression:**
  – Low mood
  – Feeling worthless, unable to face the world
  – Guilt
  – Tiredness & ‘worn out’
  – Loss of interest & pleasure in usual activities
  – Loss of libido
  – Poor concentration
  – Disturbed sleep
  – Changes in appetite & weight
  – Headaches
  – Digestive symptoms
  – Seeking comfort in alcohol / food / drugs / sex

• **Anxiety:**
  – **Fear** of what might happen, ‘what if??’
  – Rising or sudden panic, panic attacks
  – Irrational fears & phobias
  – Poor concentration
  – Disturbed sleep
  – Loss of appetite
  – Knotted stomach
  – IBS
  – Sweats
  – Aches & pains
Silent disease

• Huge social stigma surrounding depression as it is an almost invisible illness
• “Cheer up” “What have you got to worry about?” “You look fine”
• Sufferers left feeling embarrassed, isolated & helpless
• **Estimated 2/3 of sufferers do not seek help!**
Holistic connections

PHYSICAL
Nutritional deficiencies, sleep, hydration, digestion, medications

MENTAL
Changes in neurotransmitter levels and ability to transmit messages

EMOTIONAL
Unresolved emotions, support networks, talking therapies
How are our moods regulated?

Neurotransmitters

• Serotonin;
  – Manufactured in brain from **tryptophan**
  – Further metabolised to **melatonin** – induces & maintains sleep
  – Over 90% found in platelets and digestive tract
  – Influences mood, appetite, learning, behaviour, pleasure & satisfaction
Neurotransmitters

• Dopamine;
  – Manufactured in brain from tyrosine & phenylalanine
  – Precursor to epinephrine & norepinephrine involved in our “fight / flight” response
  – Influences alertness, motivation & reward seeking behaviour

  – Norepinephrine:
    • Excitatory neurotransmitter
    • Interacts with serotonin for anti-depressant effects
Neurotransmitters

- **Acetylcholine** – memory, attention
- **Glutamate & GABA** (gamma amino butyric acid) – balance between excitatory & inhibitory
- **Glycine** – simplest amino acid, inhibitory
- **Taurine** – inhibitory, can activate glycine receptors
- **Adenosine** - modulates glutamate release
What can go wrong?

- Nutrient deficiencies, adrenal stress, thyroid imbalance, SAD, Homocysteine, post natal, chronic pain
- Changing neurotransmitter levels and ability to transmit messages, medications
- Family problems, financial pressure, lack of support structure, overwhelm
Depression

• Endogenous
• Exogenous
• Typical;
  – Loss of weight, appetite and sleep
• Atypical;
  – Increased weight, appetite and sleep
• Mild, moderate, severe or Clinical – classified by Hamilton Rating Scale
• Affects men and women differently
Post-natal depression

- Women are at higher risk of developing depression during childbearing years & childbirth can trigger an episode
- Multiple nutrient deficiencies can develop during pregnancy increasing risk of PND
- Emerging research links associations between serotonin transporter genotypes and PND, Omega-3 oils and PND and both factors combined
- Low DHA levels due to foetal demands associated with PND
- High homocysteine increases PND risk
Seasonal Affective Disorder

- Imbalanced serotonin and melatonin levels
  - Circadian rhythm & biological clock are disrupted
  - Increased carbohydrate cravings; brain finding ways to access tryptophan!
- Light
- Outdoor exercise
- B6, B3, B5, Mg, vit D
Thyroid function

– Underactive thyroid causes slow cognitive function and low mood
– Links between thyroid and adrenal glands: HPTA axis
– Catecholamine (norepinephrine, dopamine) receptor formation is dependant on thyroid hormones
– Excess thyroxine produces anxiety & palpitations
Depression & Anxiety Disorders

• **Stress;**
  – Norepinephrine produced in adrenal medulla
  – Adrenal fatigue
    • depression, apathy, anxiety, low motivation
    • Imbalanced cortisol and norepinephrine levels
    • Impairment of thyroid hormone conversion – rT3
  – Associated with anxiety and....

• **Panic attacks;**
  – Sudden onset, sense of overwhelming doom and panic
  – Hyperventilation, sweating, faint, nausea
  – B-vits, Mg, EFA’s,
Adrenal Stress

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ADRENAL SUPPORT

Always running around, or running on empty? Learn how to support your adrenals to maintain energy, balance stress levels and avoid ill health.

The adrenals can be considered the cornerstone of health and vitality, and yet it has been estimated that 80% of us will experience adrenal fatigue at least once in our lives! For many, recovery can take months or even years, as low adrenal function can sometimes bring other aspects of health toppling down.

Your adrenals are pyramid-shaped glands that sit on top of your kidneys, and release hormones that regulate your stress response. So if you are juggling a busy work/life/family schedule, for example, or faced with any kind of stress, you will be firing off a lot of “fight or flight” hormones from your adrenals.

These hormones send messages to your body to prepare for physical stress: energy and resources are diverted away from your digestive system and to productive organs. For example, and secreted instead of your heart, lungs and the muscles in your arms and legs. Activating physical energy, such as running and heavy training, can be a similar response.

In the process, your body will be using up a great deal of protein, essential fatty acids (omega 3 and 5), and a whole array of minerals and vitamins, as well as fuel. If you don’t have the necessary energy to provide these, or replenish your stores afterwards, then you may be playing a dangerous game. There may come a day when energy just falls completely flat and then it’s much harder to pull yourself up and get going again.

Adrenal hormones also regulate the inflammatory response. As inflammatory diseases seem to be widespread by information, it is all the more important to explore the role of the adrenals. Adrenal support might be an important step in preventing chronic disease, including diabetes, heart disease, cancer, asthma and rheumatoid arthritis.

So it is fundamentally important to take care of your adrenals, and give them the ongoing support they need.
Chronic pain

- Persistent debilitating pain is a huge psychological strain which can lead to depression
- Pain, like depression can be invisible
- Pain may be part of Post Traumatic Stress Disorder
- Chronic use of painkillers will affect GI health
- Depression itself can manifest as physical pain
Pain management

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ALPHA ACIDS AND NATURAL PAIN RELIEF

We all know that taking pharmaceutical painkillers is one way to relieve acute pain that may occur from conditions such as backaches and headaches. But side effects from these common drugs, such as gastric ulcers and rebound headaches, might be doing us more harm than good. So is there a safe, natural alternative for pain relief?

Common side effects of everyday painkillers such as aspirin include gastric bleeding, indigestion and diarrhoea, which can occur within just a couple of days of use.

NUTRIGOLD®
Nutritional deficiencies

Essential fatty acids

Brain 60% fat with high concentrations of long chain Omega-3 fats, 18+ carbon atoms
Protected by BBB
Both DHA and EPA are significant
Essential fatty acids

- Fluidity & structure of neuronal membranes:
  - Membranes must be fluid and sensitive to release and respond to neurotransmitters
- Inhibit membrane phospholipase activity
- Inhibit breakdown of inositol triphosphate – important signalling molecule in brain
- Balance arachidonic acid levels
- Blood viscosity
- Anti-inflammatory
Essential fatty acids

- ALA
- Delta 5 & delta 6 desaturase
- Delta 4 desaturase
- EPA
- DHA
- PGE3
Essential fatty acids

- Delta desaturase enzyme co-factors:
  - Magnesium
  - Calcium
  - Biotin
  - B6
  - Zinc

- Greater need in vegetarians and vegans

- Form of omega-3 oil:
  - Triglyceride
  - Phospholipid
Essential fatty acids

• Low levels of omega-3 fats linked to onset of mood disorders in adolescents
• Deficiencies go back generations; current parents of teenagers were born in 1960’s & 70’s when trend for low-fat diets began
• 2012 study highlighted low levels of omega-3 oils in 7-9 year olds
• 9 out of 10 children eating fish less than twice per week
OMEGA 3 DEFICIENCY LEADS TO ANXIETY, HYPERACTIVITY, POOR MEMORY AND LEARNING PROBLEMS

A new study suggests that adults deficient in omega 3 fatty acids, such as those in fish oil and krill oil, may raise adolescents with compromised mental and cognitive health.[1]

The laboratory study aimed to mimic dietary trends of the late 1960s and 70s, when essential fatty acid levels were generally low, as most current teenagers were born to parents of that era. So they gave rats a diet similarly low in omega 3s, and saw changes
B-vitamins

- **Folic acid:**
  - low folate levels are associated with poor response to anti-depressant medications
  - Necessary enzyme co-factor for manufacturing dopamine and serotonin

– **B6:**
  - Conversion of tryptophan to serotonin alongside B3
  - Complements Mg for managing premenstrual low mood
  - EFA metabolism with biotin
B-vitamins

- **B1**: Utilisation of glucose by nervous system
- **B5**: adrenal support
  
  Conversion of serotonin to melatonin

- Efficient metabolism of **homocysteine** requires **B2, B6, B12, folic acid, zinc & methyl groups**

- Low levels of SAMe affects neurotransmitter and membrane phospholipid formation
Homocysteine

Dietary methionine converting to homocysteine.

**Methyl groups and B-vitamins** required to put homocysteine on either the pathway to **SAMe** or **cysteine**.
Minerals

- **Magnesium citrate**: the ‘anti stress’ mineral!
  - First report of Mg therapy being successful for depression published in 1921
  - Low levels reduce serotonin levels
  - Intracellular energy production

- **Chromium Picolinate**: 
  - Blood sugar regulation

- **Zinc citrate**: 
  - Antioxidant
  - EFA metabolism
  - Crucial enzyme co-factor
  - Can improve effectiveness of anti-depressant medications
Vitamin D3
• Essential for normal brain development
• Low levels are associated with depression
• Lack of sunlight = lack of vit D
• Vitamin D receptors are found throughout the brain
• Influences how neurotransmitters function
• Supplement with spray or capsules

Phosphatidylcholine
• Supports acetylcholine formation
• Essential phospholipid for cell membrane health and function
• High phospholipid concentration in brain
Digestive Support

• Intestinal tract is the barrier between ‘outside world’ and our ‘internal world’

• **Probiotics & digestive enzymes** are crucial!
  – Breakdown of proteins necessary for neurotransmitter formation
  – Absorption of vitamins & minerals, synthesis of B-vitamins
  – **Food allergies / intolerances** relate to mood disorders, particularly gluten and dairy:
    • Gluteomorphines & casomorphines
Mood Foods

• Tryptophan rich foods to support serotonin synthesis:
  – Turkey, pumpkin seeds, sesame seeds, fish, lamb, lentils
• Complex carbohydrates to stimulate insulin production
  – enhance tryptophan uptake
• Oily fish, nuts & seeds:
  – EFA’s, zinc, proteins, chromium
• Hydration – maintain daily fluid balance
• Dark green leafy vegetables - Mg
• Eggs: B1, B12, vit D, lecithin
• Lecithin granules – phosphatidylcholine
• Rainbow fruit & veg - antioxidants
Exercise & Relaxation

• Stress suppresses the formation of new brain cells – Serotonin stimulates neurogenesis!
• Regular daily exercise supports blood flow to brain, digestion and serotonin release
• Regular relaxation accommodates our parasympathetic nervous system response – rest, repair, recover.
Summary

• Depression & Anxiety Disorders are multi-factorial and unique to each individual

• Nutrient deficiencies, especially of Omega-3 oils, B-vits, Magnesium, Vitamin D, Zinc and Chromium play a key role in the management of depression and anxiety

• These nutrients enhance neurotransmitter formation and function, brain cell communication and energy production

• Healthy digestion is paramount for absorbing and utilising these nutrients
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