

Fuel Your Mind: Discover the Nutrients and Supplements for Mental Health



**Lucy Kershaw ANutr
Lamberts Healthcare**

ABOUT ME

Nutrition and Technical Advice Team Manager (team of 5)

Degree: BSc Nutrition and Food Science

Qualifications: Registered Associate Nutritionist and
Mental Health First Aider

Interests: Mental health and public health

Hobbies: Foodie, gym, walking and travelling



AGENDA

1. Starting with some statistics
2. Common deficiencies and at-risk groups
3. Neurotransmitters
4. Key nutrients
5. Depression and anxiety research
6. Additional supplement considerations
7. What is the best diet for mental health?
8. More research needed
9. Supplement regime simplification



STARTING WITH SOME STATISTICS

Approximately
1 in 4 people will
experience some
kind of mental
health concern in
England each year

Those who
experience mixed
anxiety and
depression is
8 in 100 people

Overall, the
number of people
reporting mental
health concerns
has **increased**

MIND Statistics - <https://www.mind.org.uk/information-support/types-of-mental-health-problems/mental-health-facts-and-statistics/>

THE BRAIN

Made up of fat,
carbohydrates, protein,
salts and water



Requires consistent feeding
with nutrients to allow
correct functioning



Cognition, memory and
mental health

Not fully developed until we are 25yrs

MOST COMMON DEFICIENCIES IN THE UK (National Diet and Nutrition Survey 2020)

- Low levels of **folate** and **vitamin D** in most age groups
- Low **iron** intakes in girls aged 11-18 years and women aged 19-64 years
- Consumption of oily fish (**omega 3**) in 19-64yrs was below the 1 portion per week (even less in children)
- Dept of Health and Social Care 2022: 1 in 6 adults and 20% of children are low in **vitamin D**

UK females and younger adults are particularly vulnerable to micronutrient shortfalls from food sources alone

(also, 16 -25 women are a group more at risk of mental health concerns)

AT-RISK GROUPS

- **Elderly** – efficiency of absorption and lower food intake
- **Vegetarians/vegans** – low intakes of iron, B12, iodine
- **Personal preference/fussy eaters** – lack of variety
- **Women** – periods, pregnancy, menopause – iron, calcium
- **Lack of education** – food combinations and variety
- **Low-income households** – accessibility and affordability
- **Those on certain medications** – metformin and B12



WHY IS THIS IMPORTANT?

OMEGAS:

- **Omega 3** – 250mg DHA contributes to the maintenance of normal brain health (**4.8g omega 3 per salmon fillet**)



MINERALS:

- **Iron** – contributes to normal cognitive function and cognitive development in children
- **Folate** and **Magnesium** – contribute to normal psychological function
- **Zinc** - contributes to normal cognitive function



WHY IS THIS IMPORTANT?

VITAMINS

- **Vitamin D** – impact on neurotransmitters, regulation of dopamine – SAD
- **Vitamin B1, B6, B12** and **biotin** - contribute to normal psychological function
- **Vitamin B5** – contributes to normal mental performance
- **Vitamin B6** - contributes to regulation of hormone regulation



NEUROTRANSMITTERS

Defined as signaling molecules

Serotonin

- Mood regulation – longer lasting feeling of happiness and emotional wellbeing
- Sleep regulation – precursor to melatonin
- Digestive system – abundance in GI tract

GABA - gamma-aminobutyric acid

- Slowing down brain activity
- Creating a calming effect

Dopamine

- Releases feelings of relaxation
- Helps attention, concentration and memory



NUTRIENTS AFFECTING OUR NEUROTRANSMITTERS

SEROTONIN

Omega 3s - EPA and DHA impact serotonin release

Vitamin D – required for conversion of tryptophan to serotonin

Vitamin B6 - required for production of serotonin

Iron, magnesium and **folate** required at correct amounts

5HTP – precursor to Serotonin

GABA

Magnesium – stimulates GABA receptors

Zinc – involved in GABA production

Serotonin – modulation of GABA

Theanine – competes with glutamate, allowing GABA to have more influence

Lemon balm – modulation of GABA (inhibits breakdown)

DOPAMINE

Omega 3's – involved in dopamine production, inflammation

Vitamin B6 – involved as coenzyme in production of GABA and serotonin

Tyrosine – precursor to dopamine

Magnesium, vitamin D, folate and **B12** required in correct amounts

THE RESEARCH: LOW MOOD AND DEPRESSION



VITAMIN D: Shown to have a positive effect on depressive symptoms

METHYLFOLATE: Abnormal levels of folate associated with higher risk of depression

LIVE BACTERIA: *Lactobacillus* and *Bifidobacterium* in the probiotic group with a minimum dose of 10^8 CFU in various dose forms effectively treated depression symptoms

AMINO ACIDS: L-acetyl-carnitine, N-acetylcysteine and L-tryptophan (5HTP) have been shown to have influence on depressive symptoms

THEANINE AND LEMON BALM: Evidence for reduction of symptoms of depression

OMEGA 3: Omega 3 supplementation can reduce low mood symptoms *

Low dietary intake of omega 3s is associated with various mental health disorders

Studies suggest that omega 3s have a positive effect on depressive symptoms.

*some studies suggest using medication alongside omega 3 supplementation

CONCLUSIONS – used as adjunctive therapy

THE RESEARCH: ANXIETY



VITAMIN D: Shown to have a positive effect on anxiety symptoms.

BIOTIN: Higher intake associated with lower incidence of anxiety, stress and depression

VITAMIN B1, B3 AND B5: Moderate intake of B1, B3 and B5 were associated with lower incidence of anxiety

OMEGA 3: Low dietary intake of omega 3s is associated with various mental health disorders. Studies suggest that omega 3s influence anxiety symptoms

THEANINE AND LEMON BALM: Evidence for a reduction of anxiety symptoms and stress response. Theanine has evidence for helping schizophrenia symptoms.

ASHWAGANDHA: Evidence for a reduction of anxiety symptoms (thought to influence serotonin and dopamine, also reduce cortisol)

CONCLUSIONS: use as adjunctive therapy, more randomised controlled trials

NEURODEVELOPMENTAL DISORDERS

The Lancet Psychiatry - Vitamin D status in newborns and long-term neuropsychiatric outcomes 2025

- High concentrations of **vitamin D** in newborns was associated with reduced risk of **Autism** and **Schizophrenia** in adult life
- Lower **vitamin D** status in newborns linked to higher risk of **ADHD** development in adult life

Journal of Lipids - Do Omega-3/6 Fatty Acids Have a Therapeutic Role in Children and Young People with ADHD? 2017

- **Omega 3s** show promise in adjunctive therapy for children and young people with **ADHD**²

ADDITIONAL SUPPLEMENTS

Adaptogens

- May have an impact on stress hormone over production (cortisol)
- May reduces stress induced cell death
- **Ashwagandha** - may enhance antioxidant activity and help resistance to stress
- **Rhodiola** - may have benefits on mental focus and stress induced cognitive decline
- **Ginsengs** – more research needed for neuroprotective effects but promising first steps

Ginkgo biloba

- Widely researched for effects on circulation and brain health
- Activation of GABA pathways – may reduce anxiety symptoms

Valerian – sleep disturbance and mild anxiety

St John's Wort – low mood and mild anxiety



WHAT IS THE BEST DIET FOR YOUR BRAIN?...

And more!

Reduce or avoid refined carbohydrates/sugars,
ultra processed foods, alcohol and caffeine



The Mediterranean Style Diet

- High in fresh fruit and vegetables
- Oily fish and olive oils
- Nuts, seeds and beans
- Good protein intake



MORE RESEARCH NEEDED

Autism

Schizophrenia

ADHD

OCD

Eating disorders

Substance abuse disorders



SUMMARY – SUPPLEMENT SIMPLIFICATION

- **MULTIVITAMIN** – containing iron, zinc, B vitamins, magnesium
- **OMEGA 3** – fish oil or vegan alternative with 250mg DHA
- 1-2 more specific options depending on concern

May be beneficial towards supporting a treatment programme for various mental health concerns



QUESTIONS?

