

HEALTHY-LONGER

# Balanced Mind

SAMPLE REPORT

”Jan Svensson, 14.11.1971”

HEALTHY-LONGER does not diagnose, treat, cure, or prevent any diseases. The results and all other contents of this report are for informational purposes only and are not to be interpreted as medical advice. Please consult your healthcare practitioner for diagnosis and treatment.

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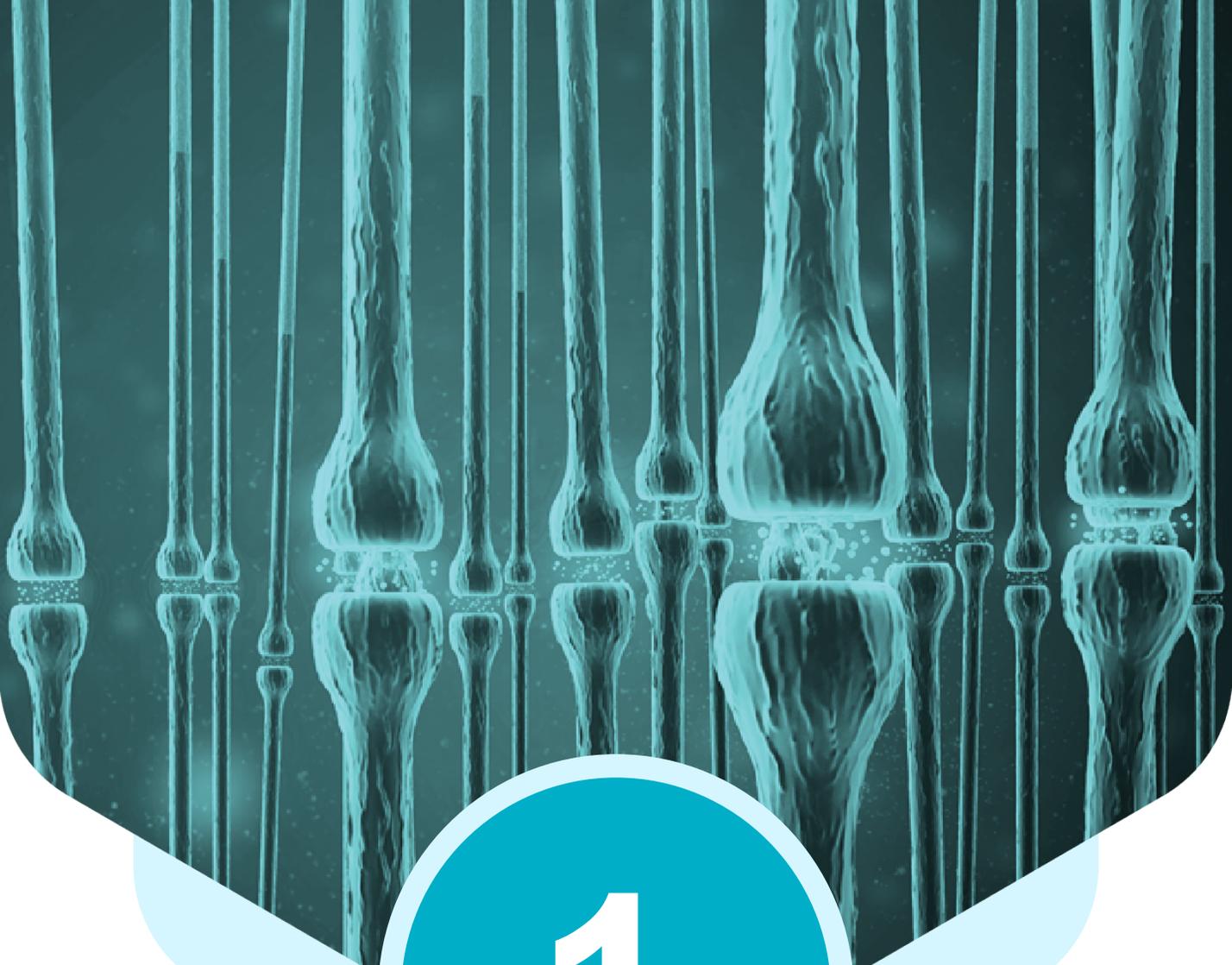
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# Your Mental Health

based on the analysis of neurotransmitters

# 1

# YOUR NUTRITION

## - the key to your Mental Health

**Mental Health was previously defined as** “the condition of being sound mentally and emotionally that is characterized by the absence of mental illness.”<sup>1</sup>

Today, mental health is understood more broadly, encompassing **our emotional, psychological, and social well-being. It’s not about the absence of illness, but rather a measure of how well we are. In short:**

**OUR CAPACITY TO THINK, FEEL, AND HANDLE STRESS, BUT ALSO, TO RELATE TO OTHERS AND MAKE HEALTHY CHOICES<sup>2</sup>.**

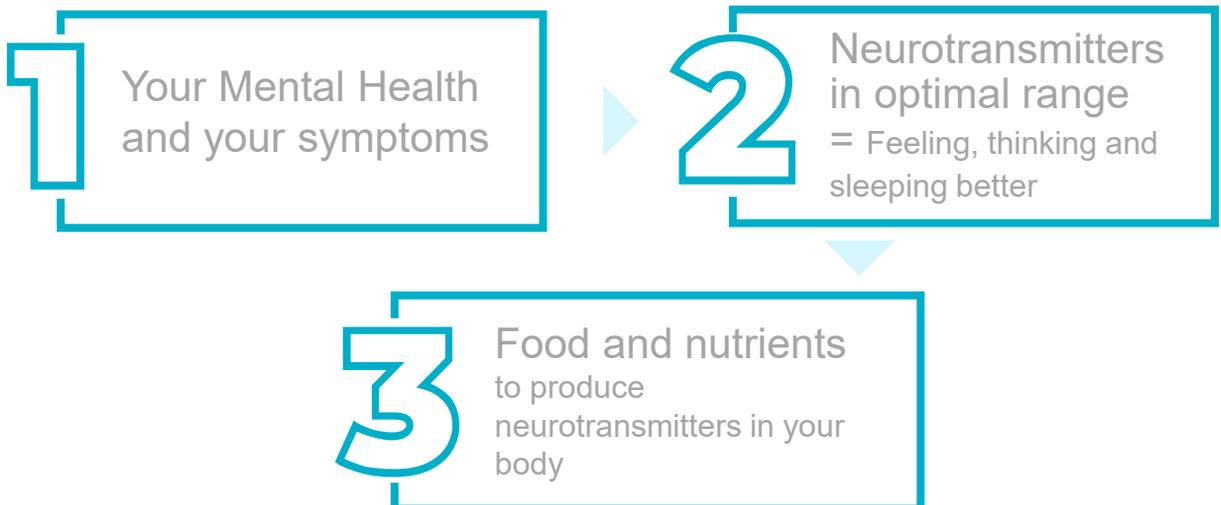
To think, feel, and control our bodily functions, our brain needs neurotransmitters – substances responsible for communication in the nervous system. The most important neurotransmitters are ingested or produced through our daily food intake. That’s why diet is one of the safest ways to balance neurotransmitters, as food offers a low risk of overdose and often optimal conditions for natural absorption.

Nutrients in food can be:

- Precursors (necessary components/building blocks) or
- Co-factors (necessary production assistants) of neurotransmitters.

They enter the brain across the blood-brain barrier, with transporters shuttling precursors in and neurotransmitters and their metabolites out.<sup>4</sup>

Here’s how it’s all connected:



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# 1

# YOUR MENTAL HEALTH SUMMARY

(based on the analysis of neurotransmitters)

The connection between mental health, level of neurotransmitters, and nutrition is well studied. 40% of all studies on mental health is dedicated to nutrition (The U.S. National Library of Medicine, National Institutes of Health) and 1 of 10 studies focuses specifically on the connection between neurotransmitters and nutrition. Adhering to the modern definition of mental health, we have analysed your well-being in the 10 categories listed below.

If a neurotransmitter is not in the optimal range, it means that its level may be too low or too high, leading to health risks, dysfunction, and symptoms, such as e.g., memory impairment or sleep problems. Neither too low nor too high is good – for example, too low a serotonin level can lead to anxiety, depression, excessive worry, hunger, cravings, insomnia, low mood, and migraines. High serotonin levels are no better and can also lead to anxiety, bone loss, celiac disease (gluten allergy), high blood pressure, irritability, and low libido. When it comes to mental health related to neurotransmitters, balance (optimal range) is what matters.<sup>5,6</sup>

Mental Health Category	You signaled at least moderate symptoms in the following area(s)	All your neurotransmitters are within the optimal range	At least 1 of your neurotransmitters is out of range (too low or too high)
<b>A</b> Sleep quality	✗		✗
<b>B</b> Stress and burnout	✗		✗
<b>C</b> Memory, focus and attention ( <i>incl. associations with ADD/ADHD</i> )	✗	✓	
<b>D</b> Anxiety, excessive worry and trauma			✗
<b>E</b> Low mood and depression		✓	
<b>F</b> Energy and libido		✓	
<b>G</b> Appetite balance		✓	
<b>H</b> Addictions	✗		✗
<b>I</b> Self-regulation		✓	
<b>J</b> Immune system		✓	



2

# Your Neurotransmitters

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# 2

# MENTAL HEALTH IS REFLECTED

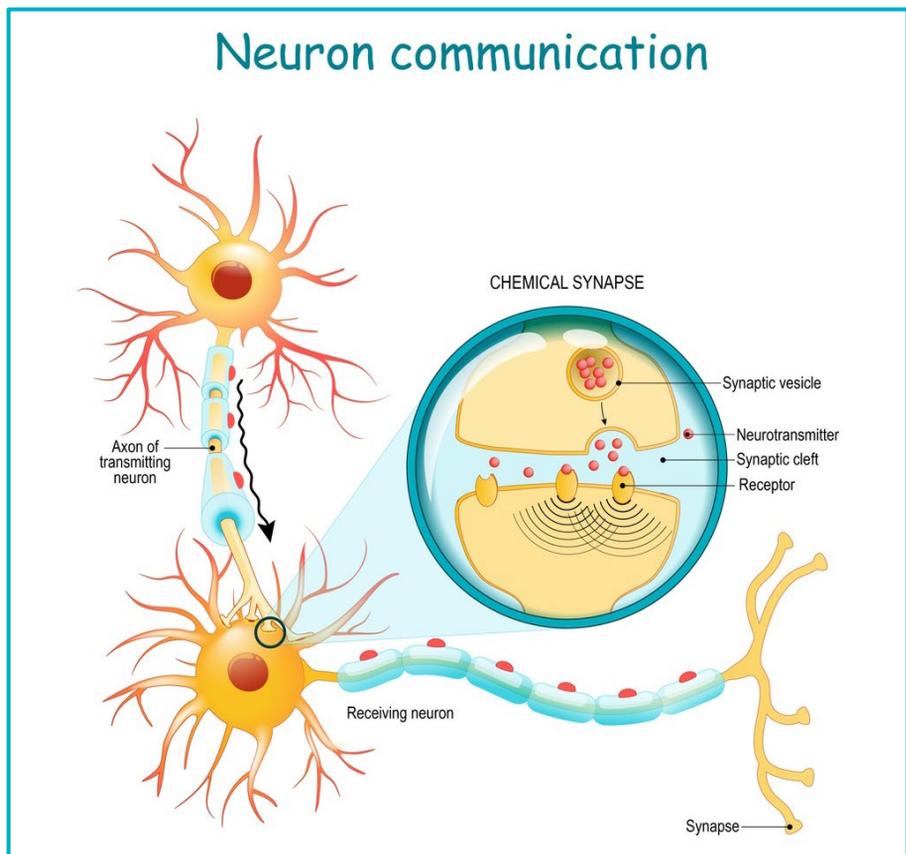
in your neurotransmitter levels

Your brain contains 2 types of cells:

- 86 billion **neurons** – nerve cells that transmit thoughts, feelings and management of body functions such as sleep, blood pressure, breathing, movement, etc.
- 86 billion **glia** – non-neuronal cells (i.e., not relating to nerves), which support and influence the way we process information<sup>7</sup>

The information required for thoughts, feelings and management of body functions is passed from one neuron to another using natural substances called **neurotransmitters**<sup>3</sup>. These influence neurons in primarily two ways: **excitatory or inhibitory**.

An optimal balance of neurotransmitters is required for the maintenance of mental health and healthy functioning of our thoughts, feelings and body functions. We measure your neurotransmitter levels and provide detailed information on how to improve them using preventive nutrition – with food that can prevent, delay or reduce your mental health risks.



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# 2

# YOUR NEUROTRANSMITTER LEVELS (1/2)

## URINARY INHIBITORY NEUROTRANSMITTERS

Neurotransmitter name	Optimal range	Your level: Too low	Your level: Optimal	Your level: Too high
Tryptophan	3970-8450 µg/g		4402 µg/g	
Serotonin	61.0-103.2 µg/g	57 µg/g		
5-HIAA (metabolite)	2988-5850 µg/g		5497 µg/g	
GABA	193-367 µg/g		245 µg/g	
Glycine	61-159 µg/g		101 µg/g	
Taurine	7.1-293.1 mg/g	4.8 mg/g		

## URINARY EXCITATORY NEUROTRANSMITTERS

Neurotransmitter name	Optimal range	Your level: Too low	Your level: Optimal	Your level: Too high
Glutamate	1515-2710 µg/g			8115 µg/g
Glutamine	37-71 mg/g		56 mg/g	
Histidine	19.7-58.4 mg/g		22 mg/g	
Histamine	5.2-15.3 µg/g		9.6 µg/g	
N-Methylhistamine (metabolite)	79-140 µg/g	62 µg/g		
PEA	5.3-16.1 µg/g		9.2 µg/g	
Tyrosine	4790-10278 µg/g		5634 µg/g	
Tyramine	279-588 µg/g	149 µg/g		
Dopamine	144-240 µg/g	77 µg/g		
DOPAC (metabolite)	658-1449 µg/g		1252 µg/g	
HVA (metabolite)	3737-7048 µg/g			8121 µg/g

# 2

# YOUR NEUROTRANSMITTER LEVELS (2/2)

## URINARY EXCITATORY NEUROTRANSMITTERS

Neurotransmitter name	Optimal range	Your level: Too low	Your level: Optimal	Your level: Too high
Norepinephrine (pooled)	15.0-28.1 µg/g	7.4 µg/g		
Normetanephrine (metabolite)	17.9-31.7 µg/g		20 µg/g	
Epinephrine (pooled)	1.4-4.2 µg/g	0.5 µg/g		
Ratio: Norepi/Epi	5.2-13.7 µg/g			14.8 µg/g
VMA (metabolite)	2580-4766 µg/g		3358 µg/g	

## URINARY INFLAMMATORY NEUROTRANSMITTERS

Neurotransmitter name	Optimal range	Your level: Too low	Your level: Optimal	Your level: Too high
Kynurenine (metabolite)	257-960 µg/g	73 µg/g		
Kynurenic Acid (metabolite)	639-1200 mg/g	522 mg/g		
3-Hydroxykynurenine (metabolite)	147-467 mg/g	98 mg/g		
Xanthurenic Acid (metabolite)	694-1510 µg/g		787 µg/g	

## URINARY CREATININE

Neurotransmitter name	Optimal range	Your level: Too low	Your level: Optimal	Your level: Too high
Creatinine (pooled)	0.3-2.0 mg/L		0.48 mg/mL	
Creatinine	0.3-2.0 mg/mL		0.64 mg/mL	

# 2

## A. SLEEP QUALITY AND YOUR LEVELS

The following imbalances could be contributing to sleep issues

Neurotransmitter name	Possible symptoms when outside of optimal range	Your level: Too low	Your level: Optimal	Your level: Too high
Serotonin <sup>8,9</sup>	Low levels of the inhibitory (calming) neurotransmitter serotonin are associated with insomnia.	57 µg/g		
Taurine <sup>10,11,12</sup>	Low levels of inhibitory (calming) neurotransmitter taurine may be associated with poor sleep.	4.8 mg/g		
Glutamate <sup>13</sup>	High levels of the excitatory neurotransmitter glutamate are associated with decreased sleep and restless legs syndrome.			8115 µg/g
Dopamine <sup>14,15</sup>	Low dopamine levels are associated with sleep disturbances.	77 µg/g		

# A. SLEEP QUALITY AND EXCITATORY / INHIBITORY NEUROTRANSMITTERS

Neurotransmitters, chemical substances in your brain and body, manage your sleep through several channels, including:

- Waking up
- Falling asleep
- Ability to sleep deeply and undisturbed
- Ability to stay asleep

Your neurotransmitters can be divided into 2 critical groups:



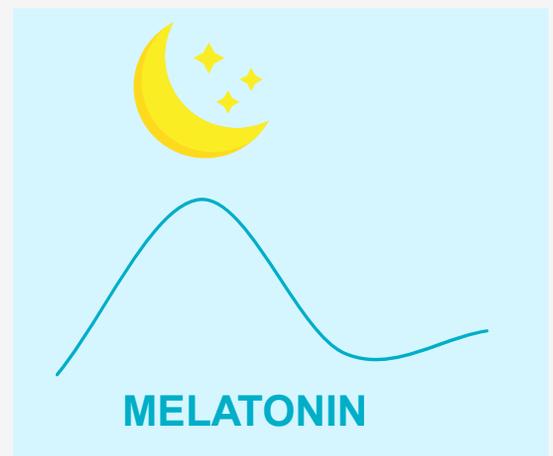
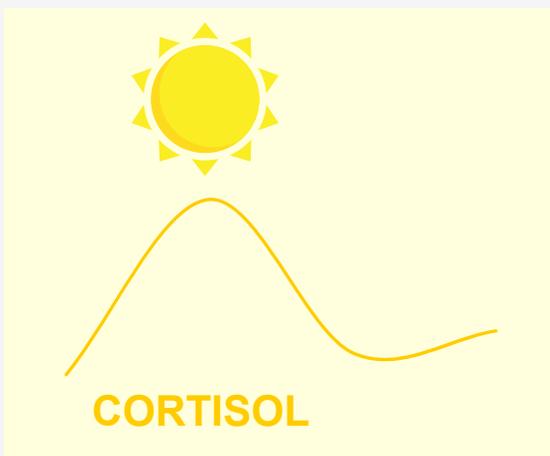
**Inhibitory neurotransmitters** make you feel calm and relaxed – your natural off switch. These neurotransmitter levels should be low during the day and high at night.



**Excitatory neurotransmitters** make you feel activated and energized – your natural on switch. These neurotransmitter levels should be high during the day and low in the evening.

*But that's not all.*

Following a similar pattern, the stress hormone cortisol must also be active during the day and decrease at night to help you recover. In contrast, you need sufficient production of the sleep hormone melatonin at night and a decrease in your levels during the day.



# 2

## B. STRESS/BURNOUT AND YOUR LEVELS

The following imbalances could be contributing to stress and burnout

Neurotransmitter name	Possible symptoms when outside of optimal range	Your level: Too low	Your level: Optimal	Your level: Too high
Dopamine <sup>16,17,18</sup>	Prolonged stress can lead to a decreased level of dopamine and/or less sensitivity of dopamine receptors, resulting in lack of motivation and reduced ability to respond to stressful situations.	77 µg/g		
Glutamate <sup>19,20</sup>	High glutamate levels may lead to increased pain, anxiety, restlessness, sleep disturbance, depression, restless legs syndrome, increased itching, poor focus, and other decreased cognitive skills.			8115 µg/g
Epinephrine (pooled) <sup>21,22</sup>	Chronic stress and inadequate nutrition can cause your body to start producing less epinephrine and norepinephrine or a lower sensitivity to epinephrine. This can lead to decreased energy and alertness.	0.5 mg/g		

## B. STRESS/BURNOUT AND DOPAMINE

### STRESS IS NORMAL

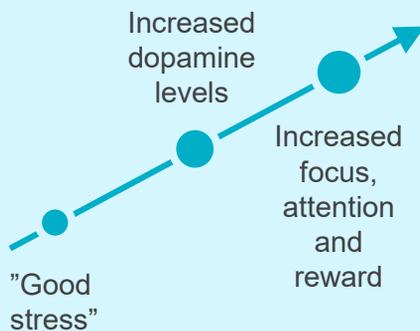
Stress – our physical and emotional response to life changes – is a normal and familiar phenomenon to us humans. Our ability to respond to stress is critical to our development, equipping us to deal with the challenges of daily life. So, at what point does stress become a problem? Let's look at what happens to our neurotransmitters when experiencing stress.<sup>23,24</sup>

### GOOD AND BAD STRESS – WHAT HAPPENS IN YOUR BODY?<sup>25</sup>

#### Good stress is:

- novel
- brief
- controllable

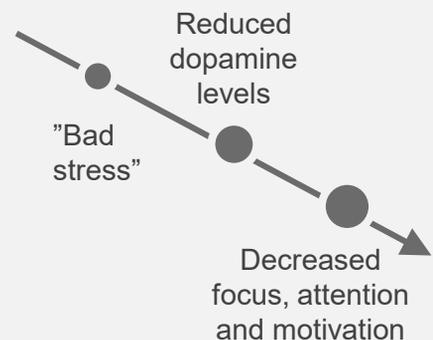
**DOPAMINE INCREASE**  
= reward



#### Bad stress is:

- chronic
- long-lasting
- uncontrollable (or perceived as such)

**DOPAMINE DECREASE**  
= risk of depression & burnout

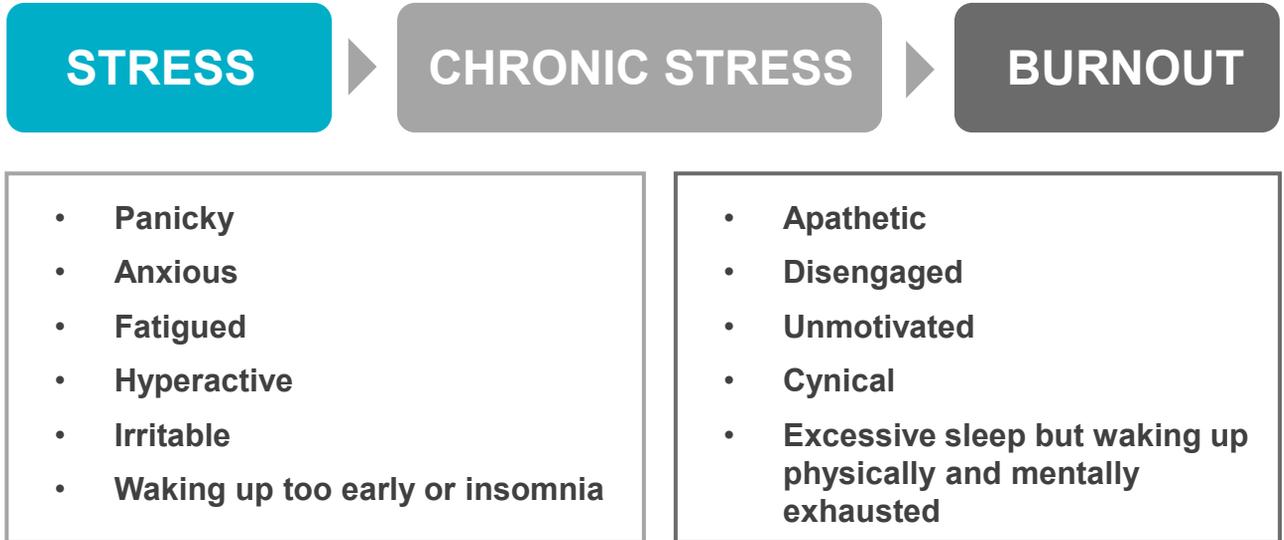


# 2

## B. STRESS/BURNOUT AND EPINEPHRINE

DURING BURNOUT, WE CAN NO LONGER FIGHT OR FLIGHT

How do we know if we're experiencing prolonged stress or burnout? The answer lies in our emotions – which reflect different neurotransmitter levels.<sup>26</sup>



### THE ROLE OF THE NEUROTRANSMITTER ADRENALINE (EPINEPHRINE)



Adrenaline production increases to handle stressful situations then returns to a normal level when stress is managed.



Prolonged/chronic stress, constant overthinking, anxiety, and worry stimulate a release of adrenaline when you don't need it — leading to an eventual decrease of adrenaline associated with burnout and depression.

# 2

## C....J. YOUR NEUROTRANSMITTERS NOT COVERED IN THIS SAMPLE REPORT



3

# Your preventive nutrition

The purpose of this section is to inform you about methods to bring your neurotransmitters in balance. Food is one of the safest and most sustainable ways to achieve this. But as only you know your medical conditions, allergies, the rest of your daily food intake and any other dependencies, please consider the overall context of your health while deciding the most suitable course for you and consult your medical specialist regarding your health concerns.

# 3

# YOUR NUTRIENTS

To balance your low-level neurotransmitters and your high-level neurotransmitters, consider foods containing the following nutrients which are necessary for their production or breakdown:

- ✓ Tryptophan
- ✓ Iron
- ✓ B6
- ✓ GABA
- ✓ Taurine
- ✓ Magnesium
- ✓ B9
- ✓ L-Theanine
- ✓ Methionine
- ✓ B3
- ✓ B12
- ✓ N-Acetylcysteine  
NAC

Add food containing your required nutrients daily from a choice of 4 different preventive nutrition baskets, as proposed on the following pages:

**BASKET I.**  
Nuts, seeds, roots, herbs

**BASKET II.**  
Legumes, whole grains

**BASKET III.**  
Vegetables, fruits

**BASKET IV.**  
Animal sources

We recommend food choices that are as diversified as possible.



## Basket I: Nuts, seeds, roots, herbs

### Your required nutrients daily:

- ✓ Tryptophan (Trp)
- ✓ Iron (Fe)
- ✓ B6
- ✓ GABA
- ✓ Taurine (Trne)
- ✓ Magnesium (Mg)
- ✓ B9
- ✓ L-Theanine (L-Thea)
- ✓ Methionine (Mthe)
- ✓ B3
- ✓ B12
- ✓ N-Acetylcysteine (NAC)



Roasted or raw peanuts 50g (Trp, Fe, Mg, B3)

Tahini 50g (Fe, B3, B6)

Chia seeds 50g (Trp)

Sunflower seeds 50g (Fe, B3, B6, B9)

Pumpkin seeds 50g (Trp, Mthe, Fe, Mg)

Brazil nuts 50g (Mthe, Mg)

Hazel nuts 50g (B9)

Sesame seeds 50g (Mthe, Mg)

Pistachios 50g (B6)

Peanut butter 50g (B3)

Japanese GABA tea 5 g (GABA)

Black or green tea (L-Thea, to be enjoyed inbetween meals)

# 3

## YOUR NUTRITION II

### Basket II: Legumes, whole grains, mushrooms

#### Your required nutrients daily:

- ✓ Tryptophan (Trp)
- ✓ Taurine (Trne)
- ✓ Methionine (Mthe)
- ✓ Iron (Fe)
- ✓ Magnesium (Mg)
- ✓ B3
- ✓ B6
- ✓ B9
- ✓ B12
- ✓ GABA
- ✓ L-Theanine (L-Thea)
- ✓ N-Acetylcysteine (NAC)



Cooked black beans 100 g (Mg)

Tofu 50 g (Trp, Fe)

Avocado 100 g (B3)

Cooked kidney beans 100 g (Trp)

Whole-grain oats 100 g (Fe, Mg)

Cooked white beans 100 g (Fe)

Cooked quinoa 100 g (B3)

Cooked chickpeas 100 g (B6, B9)

Cooked edamame 100 g (Trp, Mg, B9)

Cooked lentils 100 g (Fe, B9)

Portobello mushrooms 100 g (B3)

Cooked soya beans 100 g (B6)

# 3

## YOUR NUTRITION III

### Basket III: Vegetables, fruits

#### Your required nutrients daily:

- ✓ Tryptophan (Trp)
- ✓ Taurine (Trne)
- ✓ Methionine (Mthe)
- ✓ Iron (Fe)
- ✓ Magnesium (Mg)
- ✓ B3
- ✓ B6
- ✓ B9
- ✓ B12
- ✓ GABA
- ✓ L-Theanine (L-Thea)
- ✓ N-Acetylcysteine (NAC)



Sun-dried tomatoes 100 g (Trp, Mg, B3)

Cooked spinach 100 g (Trp, Fe, Mg, B9)

Baked potato 100 g (B6)

Dried apricots 50 g (B3)

Red bell pepper 50 g (Mg)

Dried seaweed (nori, 100 g/2 sheets) (Trne)

Radishes 50 g (B9)

Asparagus 100 g (B9)

Onions 2 pcs (NAC)

# 3

## YOUR NUTRITION IV

### Basket IV: Animal Sources

#### Your required nutrients daily:

- ✓ Tryptophan (Trp)
- ✓ Taurine (Trne)
- ✓ Methionine (Mthe)
- ✓ Iron (Fe)
- ✓ Magnesium (Mg)
- ✓ B3
- ✓ B6
- ✓ B9
- ✓ B12
- ✓ GABA
- ✓ L-Theanine (L-Thea)
- ✓ N-Acetylcysteine (NAC)



Roasted chicken breast 100 g ( Mthe, B3, B6)

Roasted pork chop 100 g (Trp)

Cooked salmon 100 g (Trp, Mthe, B3, B6, B12)

Goat cheese 50 g (Trp, Fe, B12)

Cooked blue mussels 100 g (Fe)

Mozarella 50 g (Trp, B12)

Chicken wings or legs (dark meat) 100 g (Trine, Fe)

Parmesan 50 g (Mthe)

Cooked or raw mussels, scallops, cod, salmon 100 g (Trine)

Cottage cheese or quark 100 g (B12)

# 3

# YOUR PREVENTIVE NUTRITION SUMMARY 1/2

These 2 pages summarize all 4 baskets and all preventive nutrition options to balance your low- and high-level neurotransmitters.

What to add daily – only 1 option per row is required to balance your mental health with adequate nutrients.

Neurotransmitter addressed	BASKET I: NUTS, SEEDS, ROOTS, HERBS	BASKET II: LEGUMES, GRAINS, MUSHROOMS	BASKET III: VEGETABLES, FRUITS	BASKET IV: ANIMAL SOURCES
1. <b>Tryptophan</b> <sup>27,28</sup>	50 g of roasted peanuts, pumpkin seeds, or dried chia seeds	Or 100 g of tofu, cooked edamame, or cooked black-eyed peas		Or 100 g of cooked wild salmon or roasted pork chops, or 50 g of mozzarella
2. <b>Taurine</b> <sup>29,30</sup>	100 g/2 sheets of seaweed			Or 100 g cooked or raw mussels/scallops/cod/salmon or chicken legs or wings (dark meat)
3. <b>Methionine</b> <sup>31,32,33,34</sup>	50 g of sesame seeds, pumpkin seeds, or Brazil nuts	Or 50 g of tofu		Or 100 g of roasted chicken breast or cooked salmon, or 50 g of parmesan
4. <b>Iron</b> <sup>35,36,37</sup>	50 g of tahini, roasted peanuts or pumpkin seeds	Or 100 g of cooked lentils, tofu, cooked white beans, or whole-grain oats		Or 50 g of goat cheese, or 100 g of cooked blue mussels or roasted chicken wings or legs
5. <b>Magnesium</b> <sup>38,39</sup>	50 g of pumpkin seeds, Brazil nuts, dried peanuts, or sesame seeds	Or 100 g of cooked quinoa, whole-grain oats, or cooked black beans/edamame	Or 100 g of dried tomatoes or cooked spinach, or 50 g of red bell pepper	
6. <b>B3</b> <sup>40,41</sup>	50 g of peanut butter, sunflower seeds, or tahini	Or 100 g of portobello mushrooms or raw avocado	Or 50 g of dried apricots, or 100 g of dried tomatoes	Or 100 g of roasted chicken breast or cooked salmon

# 3

# YOUR PREVENTIVE NUTRITION SUMMARY 2/2

These 2 pages summarize all 4 baskets and all preventive nutrition options to balance your low- and high-level neurotransmitters.

What to add daily – only 1 option per row is required to balance your mental health with adequate nutrients.

Neurotransmitter addressed	BASKET I: NUTS, SEEDS, ROOTS, HERBS	BASKET II: LEGUMES, GRAINS	BASKET III: VEGETABLES, FRUITS	BASKET IV: ANIMAL PRODUCTS
7. B6 <sup>41,42</sup>	50 g of pistachios, sunflower seeds, or tahini	Or 100 g of cooked soya beans or cooked chickpeas	Or 100 g of baked potato or cooked spinach, or 50 g of radishes	Or 100 g of cooked wild salmon or roasted chicken breast
8. B9 <sup>41,42</sup>	100 g of tahini, hazelnuts, or sunflower seeds	Or 50 g of lentils, chickpeas, or black-eyed peas	Or 50 g of turnips, spinach, or edamame	
9. B12 <sup>41,42</sup>				100g of cooked salmon or cottage cheese, or 50 g of mozzarella or goat cheese
10. NAC (N-Acetylcysteine) <sup>43</sup>			2 big onions (300 g)	
11. GABA <sup>44</sup>	Several cups of Japanese green GABA tea			
12. L-Theanine <sup>45,46,47</sup>	Several cups of black or green tea			

Please don't be surprised if you see the same substance recommended for both low and high levels of a given neurotransmitter. Sometimes we need the same substance to both produce a neurotransmitter at low levels and to metabolise it (break it down) at high levels.

# 3

## WHAT TO DO NEXT?

### Start fresh every day

If you've been unable to consume the recommended nutrients for a day or more, "topping up" by consuming more than the recommended daily value the day after probably doesn't help much. It's important to maintain a varied diet, and your body and brain can only absorb a certain quantity of nutrients at a time. Remember the analogy of a shuttle carrying nutrients to your brain? That shuttle has the same limited number of seats each day...<sup>48,49</sup>

### Avoid caffeine in tea and coffee with your meals<sup>50</sup>

While consuming your important nutrients, please eliminate any obstacles to their absorption, like caffeine. Solution? Enjoy your tea or coffee in between meals or opt for a decaffeinated version.

### Provide your stomach with the necessary acids and enzymes<sup>51</sup>

While your cells work best when they are slightly alkaline (pH 7.32-7.36), your stomach must be acidic (around 1.3 to 2.2 on average) to kill harmful bacteria and microorganisms and aid the digestion and absorption of necessary nutrients.

Here's how to determine if your stomach is not acidic enough:

Do you feel tired after eating? Do you experience gas, bloating, belching and cramping 1 hour after a meal? If so, your stomach may be struggling with insufficient acid and enzymes to break down the food.

You can influence the quality of your digestion by increasing your intake of probiotics and fermented food, as well as eating fresh or juiced ginger with your meals.

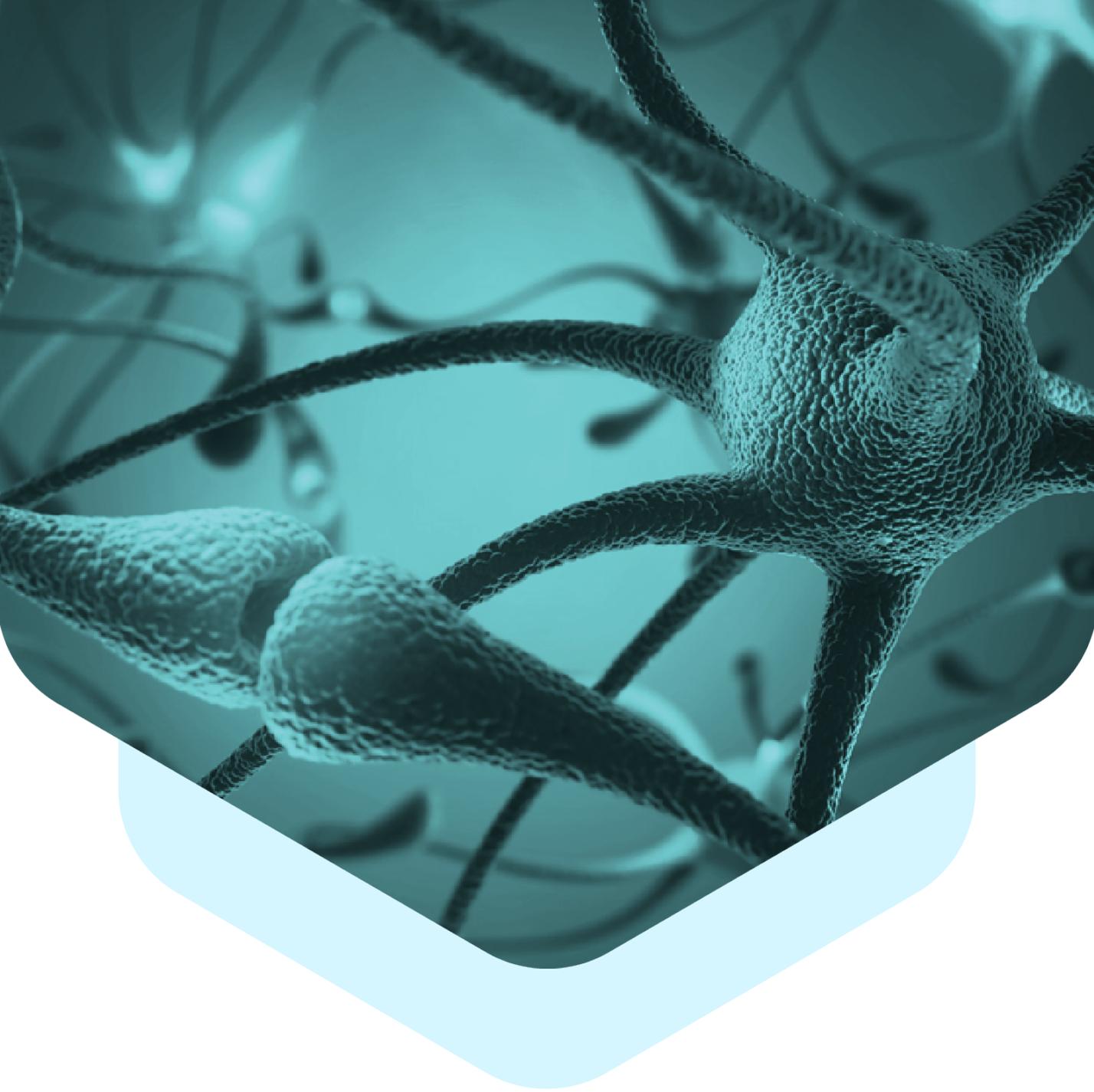
### Stable supply of glucose and oxygen instead of sugar chocks

A balanced nutrition is the key. If you don't eat enough (carbohydrates, for example), your brain can't function normally, and if you eat too much sugar or carbohydrates, it is killing your brain cells. How much is enough? At least 100 g daily, but no more than 4-6 g of carbohydrates per 1 kg of body weight, of which no more than 50 g should be sugar. Fresh air and exercise stimulate blood circulation and enable oxygen transport to the brain.<sup>52,53,54,55</sup>

### Observe your well-being

After regularly monitoring your well-being for 3-6 months, you can measure your progress using our follow-up product. If you have significant imbalances, you should consult your doctor or specialist. Our report is intended for informational purposes only, as we do not cure or diagnose.

We hope that with this information, you feel empowered to take your prevention to the next level and enjoy improved mental health. We wish you a successful journey to achieve a balanced and happy mind!



# Appendix

HEALTHY-LONGER

# PREVENTIVE NUTRITION AND YOUR LOW NEUROTRANSMITTERS

One way of increasing your neurotransmitter levels is by ensuring your body has enough of the 3 types of nutrients required to produce them: <sup>56,57,58,59</sup>

1

**Precursors** – the building blocks of neurotransmitters. Luckily, most neurotransmitters require only protein or specific amino acids.

2

**Co-factors** – enable the production of neurotransmitters in the body. These are primarily enzymes and vitamins.

3

**Probiotics** – to ensure your implemented changes take effect, it's essential to cultivate a healthy environment in your digestive system. To absorb the nutrients in your food, you need a rich flora of healthy bacteria and other microorganisms called probiotics.

Not all the substances we need are available in food. Some of them are simply enzymes made in our bodies. Therefore, we can divide them as follows:

## NON-ESSENTIAL

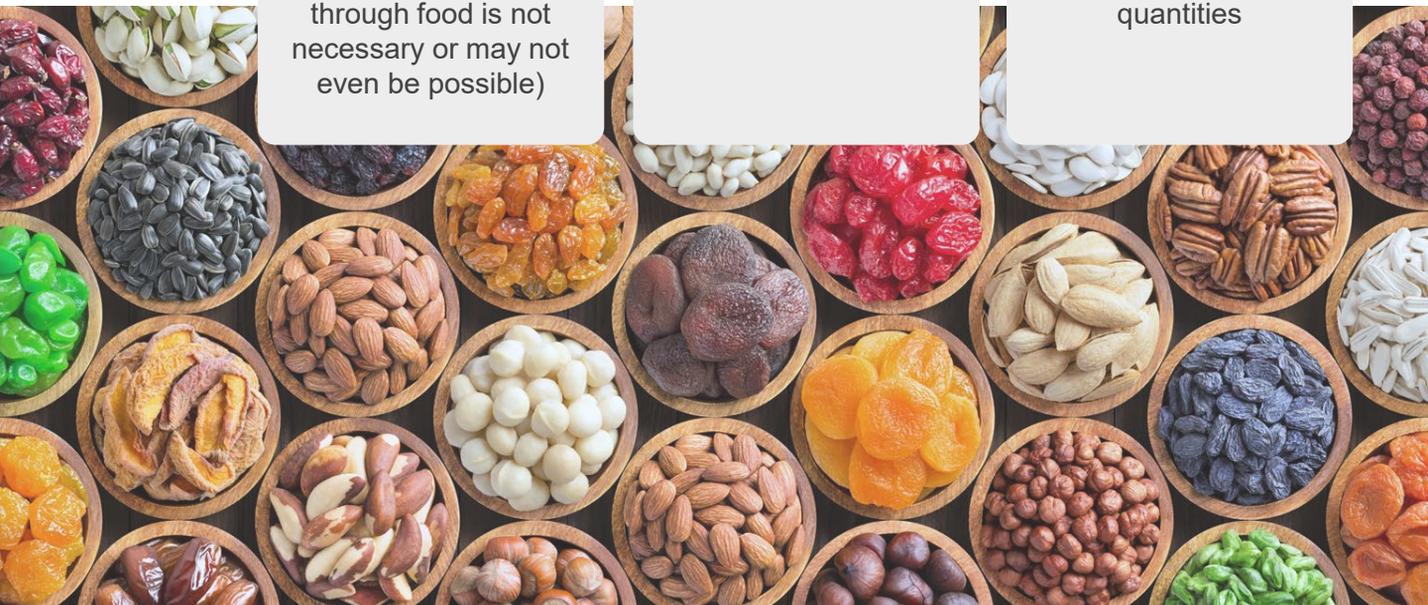
enzymes made in our bodies (their intake through food is not necessary or may not even be possible)

## ESSENTIAL

we need to absorb these from our food

## SEMI-ESSENTIAL

our body makes them in insufficient quantities



# PREVENTIVE NUTRITION AND YOUR HIGH NEUROTRANSMITTERS

You have several options for lowering your excess neurotransmitters levels, including<sup>60,61</sup>

1

Reducing consumption of the precursors and co-factors needed to produce a neurotransmitter. This option can be problematic, as the same building blocks and co-factors are sometimes required to produce numerous useful neurotransmitters. What if you have a shortage of PEA but an excess of tyrosine, which both share the precursor phenylalanine? In that case, reducing the consumption of phenylalanine in your food could lead to an even greater shortage of PEA. For that reason, this method requires careful evaluation.

2

Increasing your metabolism of a neurotransmitter. If a neurotransmitter is broken down and used by the body in higher quantities, this could lead to lower stored levels. In fact, sometimes excess levels of a biomarker may be caused by a shortage of the components/co-factors required for its metabolism.

3

Countering a neurotransmitter with another biomarker/neurotransmitter. For example, increasing an inhibitory (calming) neurotransmitter to counter excess levels of excitatory neurotransmitters.

4

Neutralising the negative effects of an excess neurotransmitter with another substance or neurotransmitter. For example, countering excess glutamate, which can lead to toxic effects on brain nerve cells and oxidative stress, with an increase in taurine, which protects healthy cells by functioning as a potent antioxidant to reduce oxidative stress.

5

Adding another substance to lower the level of a certain neurotransmitter or hormone. For example, several studies suggest that ashwagandha root can decrease levels of the stress hormone cortisol.<sup>62</sup>

While bringing your neurotransmitters in balance to optimise your mental health, we recommend maintaining a diversified, varied daily food intake, while adding/adjusting nutrients tailored to your personal shortages/surpluses.

Finally, our objective is to propose a plan to balance your neurotransmitters. Food is one of the safest and most sustainable ways to achieve this. But as only you know your medical conditions, allergies, the rest of your daily food intake and any other dependencies, please consider the overall context of your health and consult your medical specialist if you have any concerns regarding the suitability of this solution.

# DAILY REQUIREMENTS OF YOUR NUTRIENTS (EXAMPLE)

SUBSTANCE	Affected Neuro-transmitter	Function	What is it?	Recommended Daily Dosage <sup>63,64,65</sup>
Tryptophan	Serotonin or 5 HIAA	Precursor	Amino acid	Adults: 5 mg/kg of body weight/day; up to 4.5 g/day found safe for adults in some studies
<b>SAMe S-adenosyl methionine – bioactive form of methionine abundant in food</b>	Serotonin or 5 HIAA	Co-Factor	Amino acid	Adults: 19 mg/kg of body weight of methionine + cysteine
<b>Fe (Iron)</b>	Serotonin or 5 HIAA	Co-Factor	Mineral	Women over 50 and men: 10 mg; fertile women: 18 mg
<b>Mg (Magnesium citrate)</b>	Serotonin or 5 HIAA	Co-Factor	Mineral	Women: 300 mg; men: 350 mg
<b>B3 (Niacin)</b>	Serotonin or 5 HIAA	Co-Factor	Vitamin	Women: 14 mg; men: 16 mg
<b>B6 (Pyridoxine)</b>	Serotonin or 5 HIAA	Co-Factor	Vitamin	Women: 1.4 mg; men: 1.6 mg
<b>B9 (Folate)</b>	Serotonin or 5 HIAA	Co-Factor	Vitamin	Adults: 0.300 mg
<b>B12 (Methyl cobalamin)</b>	Serotonin or 5 HIAA	Co-Factor	Vitamin	Adults: 0.004 mg
<b>Fe (Iron)</b>	Dopamine	Co-Factor	Mineral	Women over 50 and men: 10 mg; fertile women: 18 mg
<b>DOPA</b>	Dopamine	Precursor	Amino acid	
<b>B6 (Pyridoxine)</b>	Dopamine	Co-Factor	Vitamin	Women: 1.4 mg; men: 1.6 mg

# ADDITIONAL DATA - TRYPTOPHAN 1(2)

## Increasing low levels of serotonin by adding tryptophan to your daily nutrition (example)

Since tryptophan is less abundant than most other amino acids and competes for space on the same transportation "shuttle" to your brain, its absorption can be aided by eating carbs concurrently.<sup>66</sup>



Options

Nuts, seeds, roots,  
herbs

Legumes,  
grains,  
mushrooms

Vegetables,  
fruits

Animal  
sources

### OPTION 1

50 g of dried chia  
seeds

Or 100 g of  
tofu

Or 100 g of  
cooked spinach

Or 100 g of  
cooked wild  
salmon

mg of tryptophan  
% of RDA\*

356 mg

235 mg

101 mg

306 mg

90%

84%

27%

81%

Suggestions

Soak in your choice  
of milk overnight to  
create chia pudding,  
or buy a readymade  
chia pudding

Fry or bake

Eat as a creamy  
soup or add to  
your meals

Bake or fry

### OPTION 2

50 g of pumpkin  
seeds

Or 100 g of  
cooked  
edamame/  
black-eyed  
peas

Or 100 g of sun-  
dried tomatoes

Or 100 g of  
roasted  
boneless  
pork chop

mg of tryptophan  
% of RDA

288 mg

150/94 mg

104 mg

388 mg

76-86%

40/35%

27%

100%

Suggestions

Add to yoghurt,  
porridge, salads,  
breads or other  
snacks

Eat as a  
snack/  
Add to stews,  
curries or  
chillies

Add to salads or  
hot meals

Roast or fry  
as a main  
dish

RDA\* – Recommended Daily Allowance

HEALTHY-LONGER

# ADDITIONAL DATA - TRYPTOPHAN 2(2)

Increasing low levels of serotonin by adding tryptophan to your daily nutrition (example)

OPTION 3	50 g of roasted peanuts	Or 100 g of whole-grain oats	Or 50 g of mozzarella cheese
mg of tryptophan	136 mg	210 mg	255 mg
% of RDA	36-41%	60%	66%
Suggestions	Eat as a snack or add to salads or hot meals	Add to yoghurt or make into porridge	Add to salads or eat as a snack

RDA\* – Recommended Daily Allowance



# ADDITIONAL DATA - TAURINE

Decrease of high levels of glutamate: countering glutamate actions by adding calming (inhibitory) taurine (example)<sup>67</sup>



Nuts, seeds,  
roots, herbs



Legumes,  
grains,  
mushrooms



Vegetables,  
fruits



Animal sources

Options

## OPTION 1

100 g, i.e. 2  
sheets of  
Seaweed  
(japanese nori)

Or 100 g  
cooked or raw  
mussels/  
scallops/  
cod/salmon

mg of taurine

% RDA, (not  
established but  
an average  
intake is 400  
mg/day)

80 mg per 2  
sheets of  
Japanese nori

Up to 655/  
825/  
120/94 mg

Suggestions

Sprinkle on food  
or salads, eat  
sushi

Bake or fry

## OPTION 2

Or 100 roasted  
chicken wings  
or legs (dark  
meat)

mg of taurine

170mg

Suggestions

Fry or bake

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