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# The role of complementary medicine in mental health and wellbeing

Prof Lesley Braun PhD,
Global Director Blackmores Institute (WSU; SCU)

# Learning Objectives

After this presentation chiropractors should be able to:

Describe the Mental Wellbeing Spiral

Discuss the appropriate use of a range of complementary medicine ingredients for stress, anxiety and insomnia

Evaluate and select the most appropriate complementary medicine options for stress, anxiety and insomnia

Identify the causes of insomnia

# The world around us has changed due to the COVID-19 pandemic

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# How has this impacted Chiropractors?

- More patients presenting with burn-out, stress, overwhelm and fatigue
- Substantial infectious control changes in response to COVID-19
- Switch to Telehealth
- Musculoskeletal spine-care chiropractors were more adaptive to certain COVID-19 public health changes within their practice setting than subluxation-based chiropractors.
- **Substantial personal burden to business and finances (> 65% of chiropractors reported needing to seek financial assistance due to loss of income)**

https://chiromt.biomedcentral.com/articles/10.1186/s12998-022-00432-6

# **Mental Wellbeing** The Essential Guide to Using Herbs and Nutritional Supplements

By Lesley Braun PhD

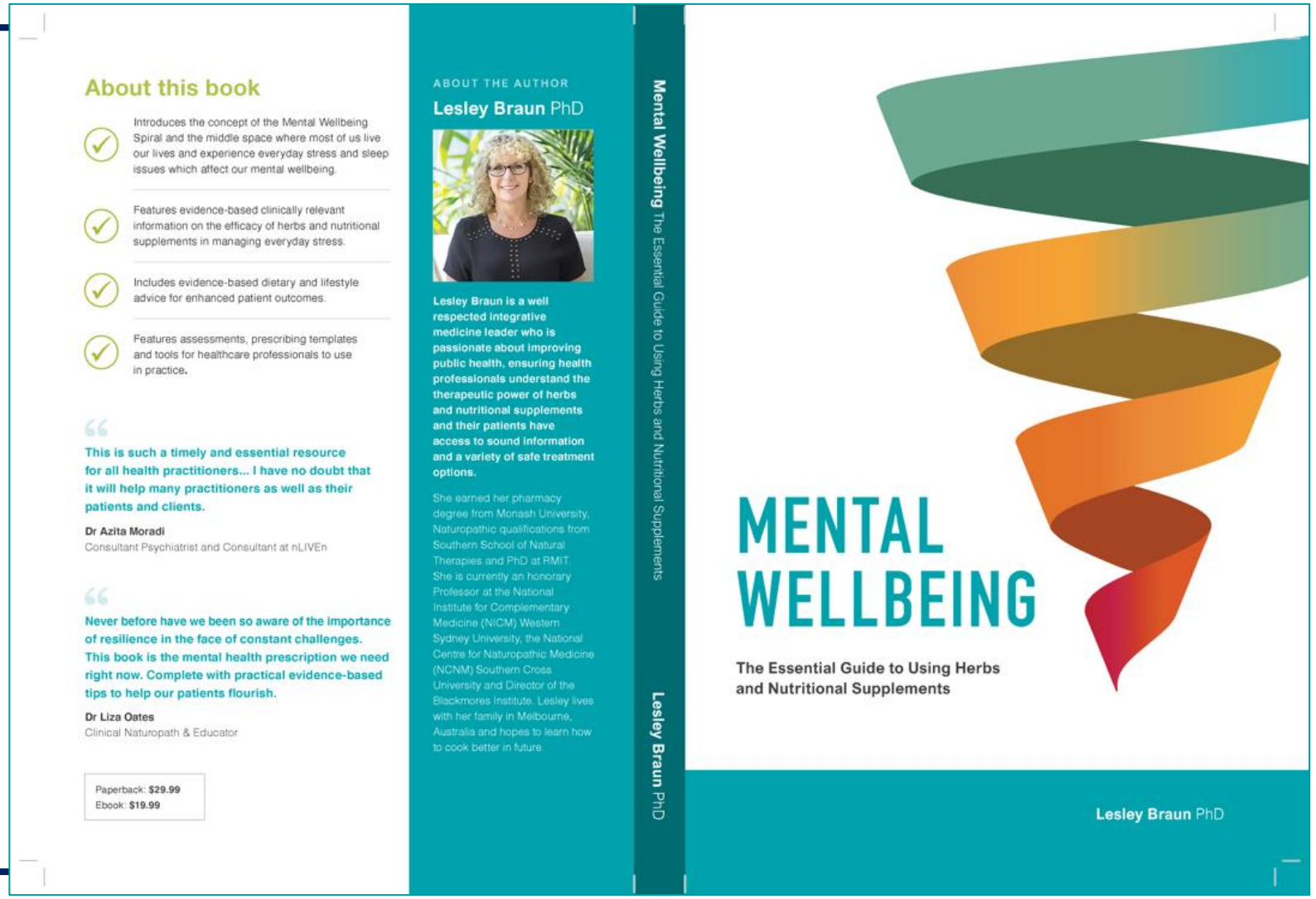
BioCeuticals

Developed for busy HCPs as a clinically useful reference tool

Peer-reviewed evidence based clinically focused guide book

Quantifying stress
Mapping patient progress
30 mini-reviews of popular ingredients
includes several ready reckoners

Launched in November 2021 on [www.blackmoresinstitute.org](http://www.blackmoresinstitute.org)



# Defining Mental Wellbeing

Mental wellbeing is a state where an individual can readily cope with the daily stresses of life and use their cognitive and emotional abilities to realise their potential.

With this comes the ability to form fulfilling relationships and deep connections, be productive and successfully adapt to change.

# What can we do?

Help people identify where they currently sit on the MWB spiral & explain they have the potential to move up

Provide info about diet & lifestyle modifications to manage stress and sleep

Consider altered nutritional requirements and the role of supplementation

Consider herbs and/or nutritional supplements to strengthen and accelerate movement back up the spiral

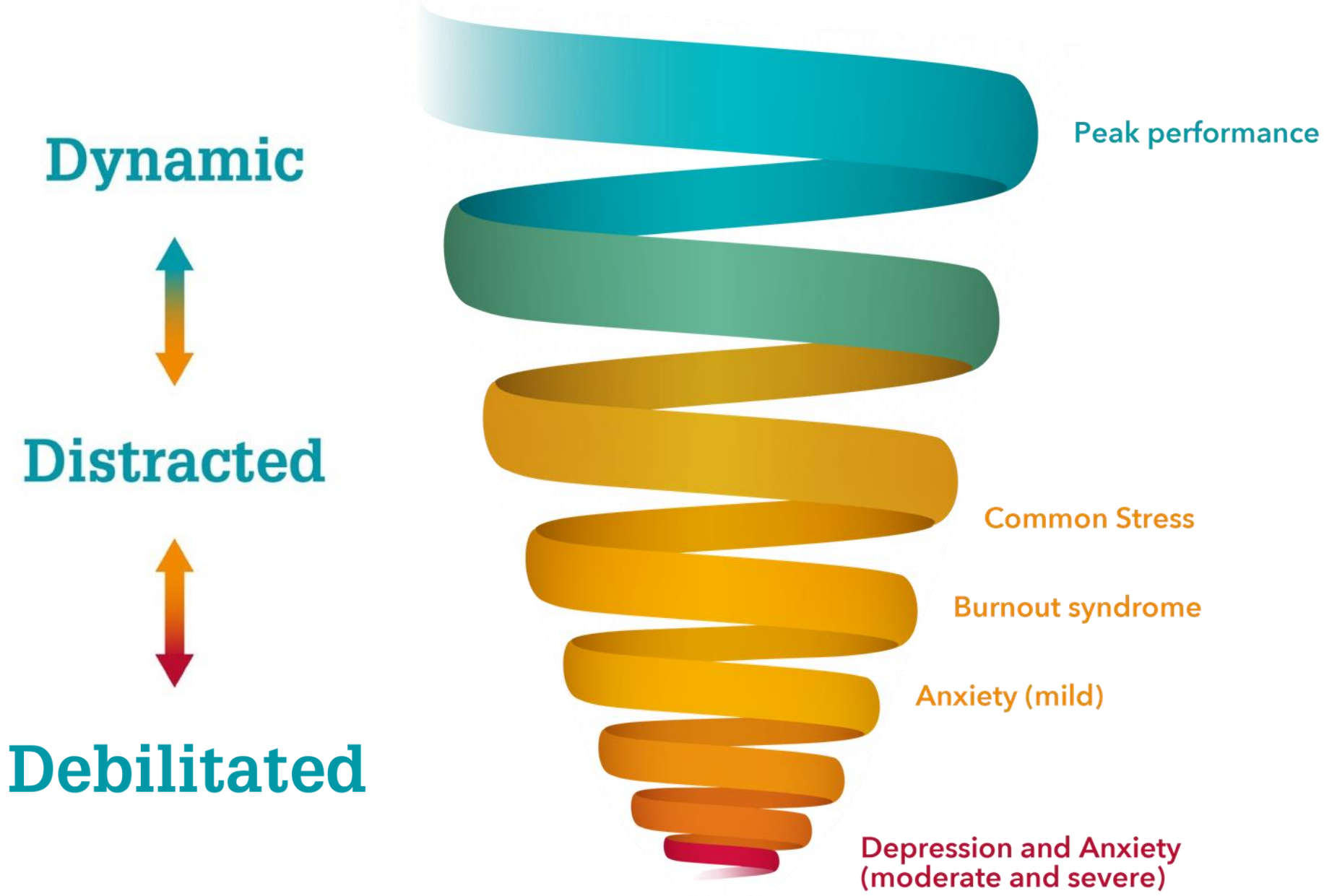
Refer where appropriate

# Stressors in Australia

| Stressor | Average result |
|---|---|
| Personal financial issues | 49% |
| Health issues | 44% |
| Family issues | 45% |
| Maintaining a healthy lifestyle | 40% |
| Concern over the health of those close to you | 38% |
| Workplace issues | 32% |
| Relationships | 31% |
| The economy | 28% |
| The political climate | 25% |
| Mental Health | 23% |

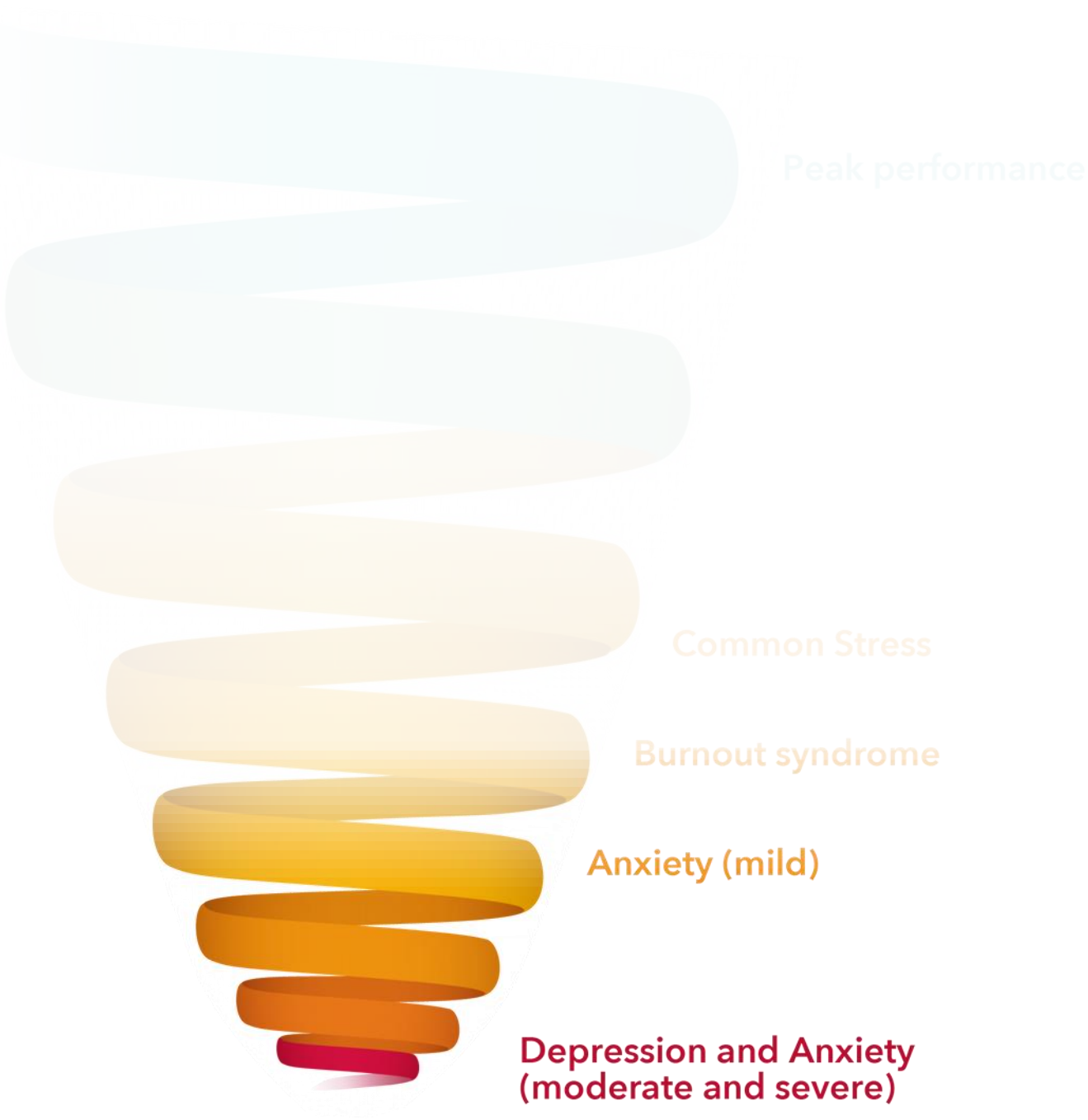
The prevalence of stressors in Australia. (www.headsup.org.au, n.d.)

# The Mental Wellbeing Spiral



# Debilitated

- Severe mental health issues
- Low energy, mood & motivation
- Significantly impacts QoL and ability to lead life to the fullest
- Resilience and adaptation is low
- Supervision required from a mental health professional

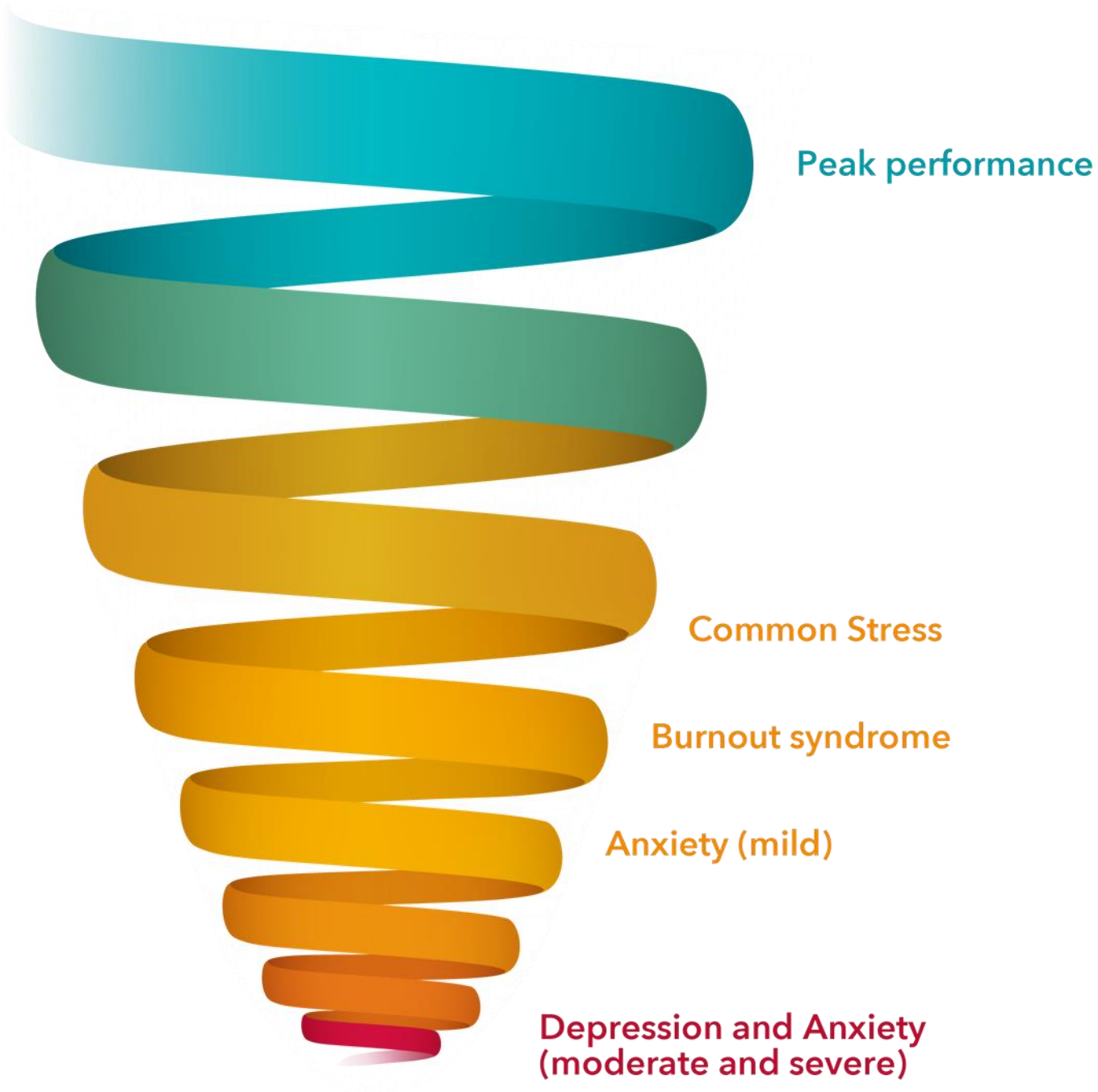


# Distracted

- The majority of everyday people move up and down this middle space during their life time
- Capacity to meet everyday challenges okay, but lowered resilience to sudden change
- May feel scattered, irritable, overwhelmed at times
- Mood, focus, memory, sleep, immune function and digestion can be affected at high stress times

# Dynamic

- Sustainable peak performance where you are operating at your highest potential
- Good energy, focus, concentration
- State of ‘flow’
- Good resilience and ability to adapt to change with ease and even joy
- Flourishing

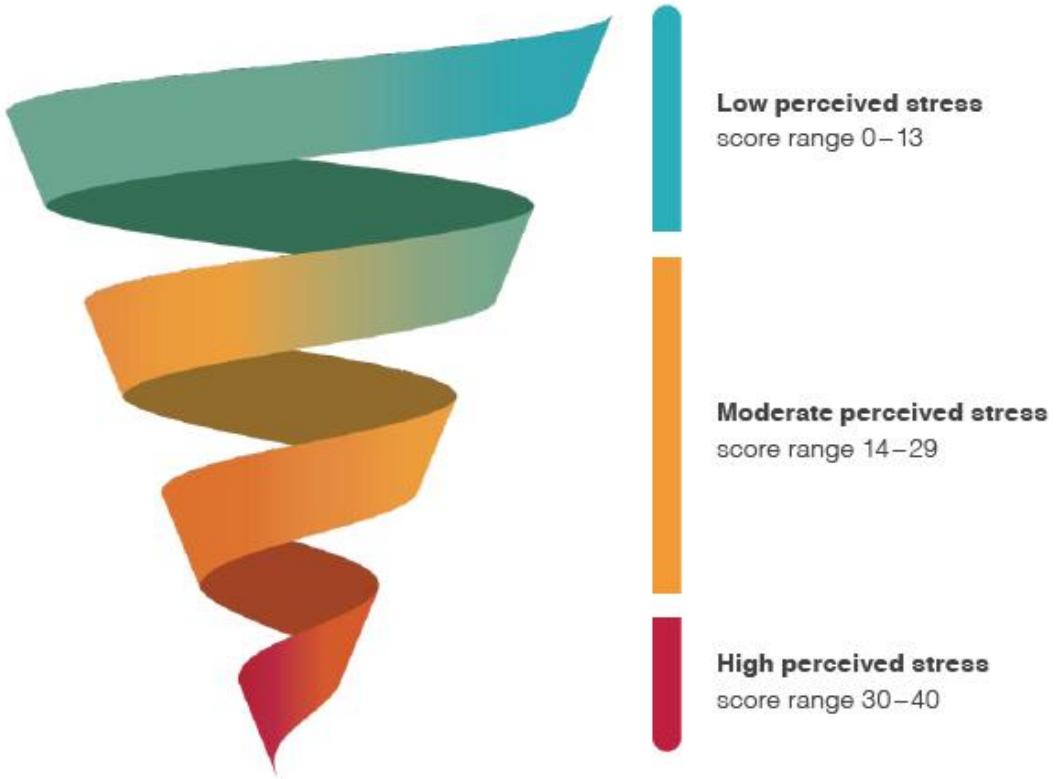


# Measuring stress - introducing PSS

10 item validated survey

Asks about feelings & thoughts over last month

Asks about the extent of unpredictability, uncontrollability and overloading being experienced




**How to take the test:**
For each question choose from the following alternatives. Place your score in the score box.

0 – Never 1 – Almost never 2 – Sometimes 3 – Fairly often 4 – Very often

| Question | Score |
|---|---|
| 1. In the last month, how often have you been upset because of something that happened unexpectedly? | |
| 2. In the last month, how often have you felt that you were unable to control the important things in your life? | |
| 3. In the last month, how often have you felt nervous and stressed? | |
| 4. In the last month, how often have you felt confident about your ability to handle your personal problems? | |
| 5. In the last month, how often have you felt that things were going your way? | |
| 6. In the last month, how often have you found that you could not cope with all the things that you had to do? | |
| 7. In the last month, how often have you been able to control irritations in your life? | |
| 8. In the last month, how often have you felt that you were on top of things? | |
| 9. In the last month, how often have you been angered because of things that happened that were outside of your control? | |
| 10. In the last month, how often have you felt difficulties were piling up so high that you could not overcome them? | |
| **TOTAL** | |

# Prescribing framework

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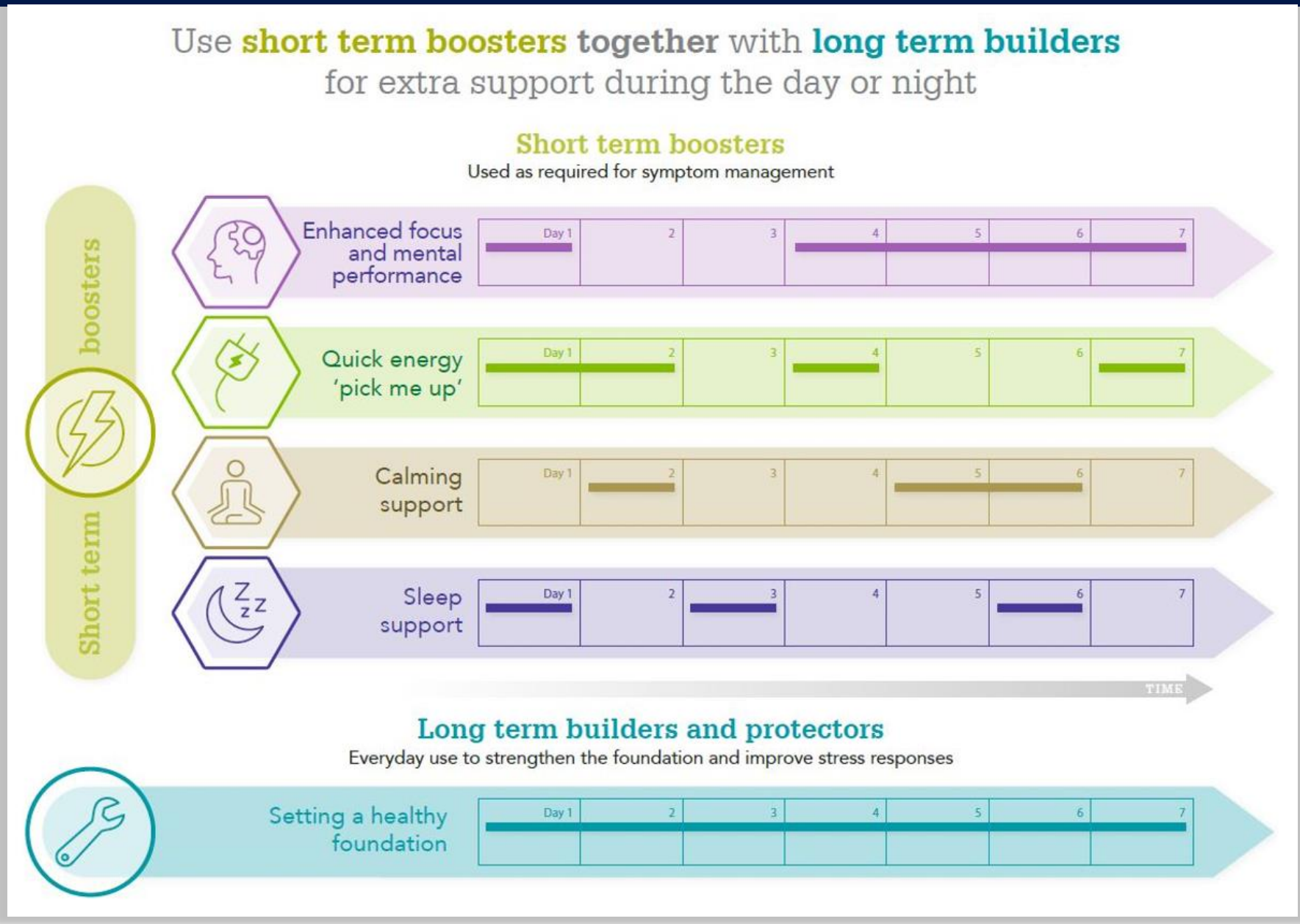
**Aiming to :**

- Strengthening the foundation
- Include rescue treatment options as required

**Considers :**

- Individual patient needs
- Speed of response required
- Length of time required to see clinically significant effects based on current traditional and scientific understanding



# The effects of stress

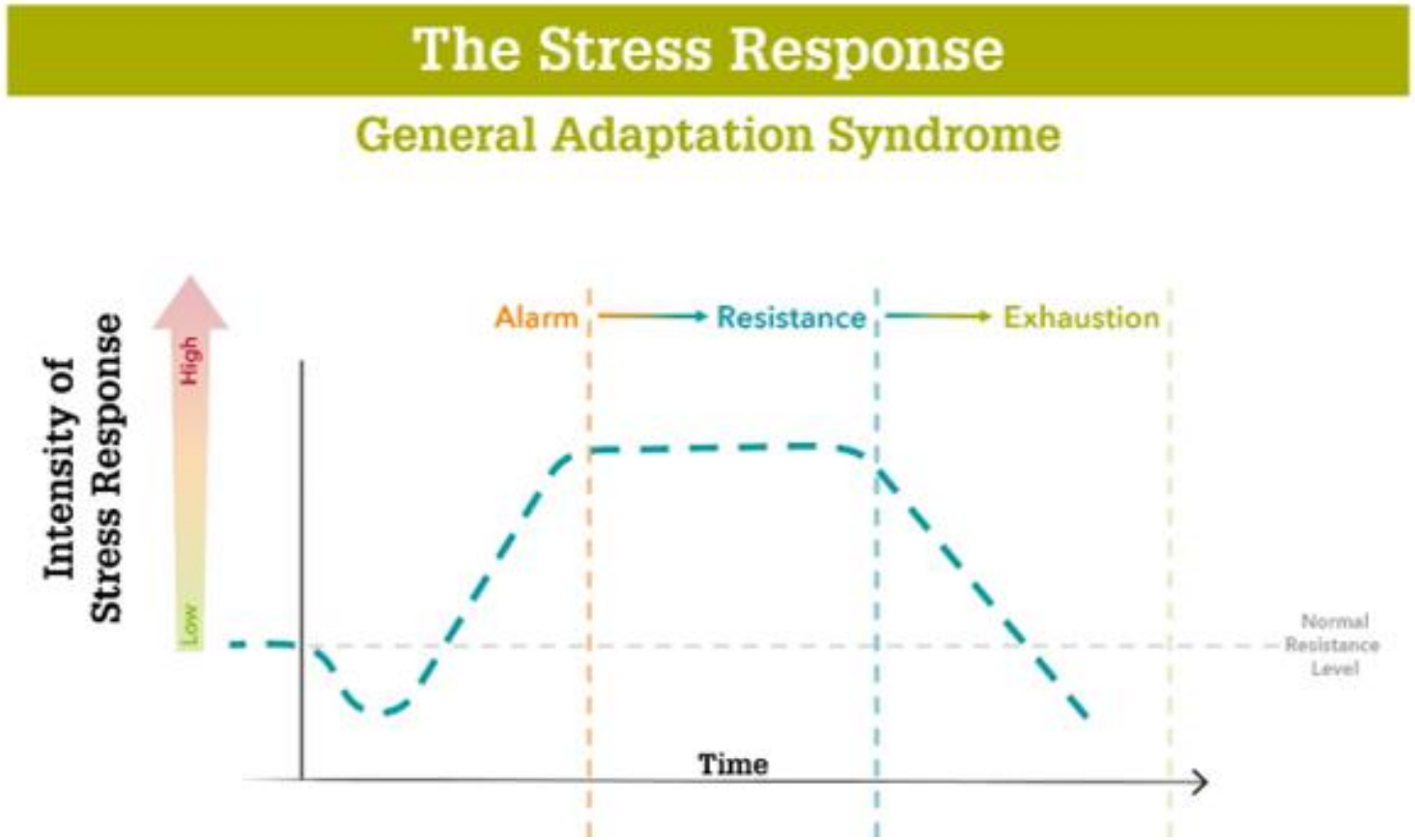
Chronically elevated cortisol can contribute to a wide range of chronic diseases and disorders

- disturbances to the body's circadian rhythm
- increased blood pressure
- opposing the effects of insulin
- reduced bone formation
- increased sodium and fluid retention by the kidneys
- suppressed immunity

There is a there is a bidirectional relationship between the gut microbiota and stress responses

- chronic stress alters the gut microbiota
- microbial imbalances cause intestinal and systemic inflammation and abnormal neurological signalling that can trigger HPA activation
- gut microbiota produce neurotransmitters, hormones, and other inflammation-modulating compounds

# Complementary Medicines and the Stress Response




**Selye's 3-stage stress response model.** (Hans Selye, 1956)

- **Alarm**
  - Herbal anxiolytics & relaxants
  - Multivitamins & B complex
  - Diet & lifestyle – aiming to speed recovery
- **Resistance**
  - Adaptogens e.g., ashwagandha,
  - Vitamins C, B grp vitamins & multi's
  - Magnesium, zinc and iron
  - Diet & lifestyle – aiming to improve response & replenish
- **Exhaustion**
  - Adaptogens e.g., licorice
  - B group vitamins & multi's
  - Coenzyme Q10
  - Diet & lifestyle – aiming to restore & rehabilitate

# Required for healthy stress response

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## Supporting nutrients

- ✓ Vitamin B5 (pantothenic acid)
- ✓ Vitamin B6
- ✓ Vitamin B12
- ✓ Folic acid
- ✓ Vitamin C
- ✓ Magnesium
- ✓ Zinc
- ✓ Omega-3 fatty acids (EPA and DHA)
- ✓ Probiotics

## Increased requirements during stress

- ✓ Vitamin B5 (pantothenic acid)
- ✓ Vitamin B6
- ✓ Vitamin B12
- ✓ Vitamin C
- ✓ Magnesium
- ✓ Zinc

# B Group Vitamins

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Setting a healthy foundation

Quick energy 'pick me up'

Calming support

Clinical evidence indicates that supplementation with high-dose B group vitamins significantly reduces symptoms of stress, levels of perceived stress and anxiety, improves mood and may increase resilience.


| | |
|---|---|
| Practice points | • B vitamins can be used therapeutically to address a range of stress states<br>• Select a high-dose vitamin B complex or a multivitamin and mineral supplement<br>• Evidence suggests that doses beyond RDI are required for therapeutic benefit in stress<br>• Use B vitamins in combination as they complement one another<br>• Effects become apparent within 1 month of use with effects on brain connectivity seen at 6 mths |
| Safety | • B complex vitamins are safe when used at the recommended dose. |

(Schlebusch L et al, 2000) (Carroll D et al, 2000)
(Stough C et al, 2011) (Downey LA et al, 2019)
(Long SJ, Benton D, 2013) (Young LM et al, 2019)

# B Group Vitamins + Herbals – RCT program

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Exploring whether its beneficial in reducing workplace stress and identifying potential mechanisms of action

HUMAN PSYCHOPHARMACOLOGY
*Hum. Psychopharmacol Clin Exp* (2011)
Published online in Wiley Online Library
(wileyonlinelibrary.com) **DOI**: 10.1002/hup.1229

## The effect of 90 day administration of a high dose vitamin B-complex on work stress

Con Stough[1,2]*, Andrew Scholey[1,2], Jenny Lloyd[1], Jo Spong[1], Stephen Myers[2,3] and Luke A. Downey[1,2]

SWINBURNE UNIVERSITY OF TECHNOLOGY

*nutrients*

MDPI

*Article*

## The Effect of a High-Dose Vitamin B Multivitamin Supplement on the Relationship between Brain Metabolism and Blood Biomarkers of Oxidative Stress: A Randomized Control Trial

Talitha C. Ford [1], Luke A. Downey [1,2,*], Tamara Simpson [1], Grace McPhee [1], Chris Oliver [3] and Con Stough [1]

1 Centre for Human Psychopharmacology, Swinburne University, Melbourne, VIC 3122, Australia; tcford@swin.edu.au (T.C.F.); tsimpson@swin.edu.au (T.S.); gmcphee@swin.edu.au (G.M.); cstough@swin.edu.au (C.S.)
2 Institute for Breathing and Sleep, Austin Hospital, Melbourne, VIC 3084, Australia
3 Oliver Nutrition, Sydney, NSW 2000, Australia; Christopher.Oliver@scu.edu.au
* Correspondence: ldowney@swin.edu.au; Tel.: +61-3-9214-5781

frontiers in Nutrition

ORIGINAL RESEARCH

## Increased Posterior Cingulate Functional Connectivity Following 6-Month High-Dose B-Vitamin Multivitamin Supplementation: A Randomized, Double-Blind, Placebo-Controlled Trial

*Luke A. Downey[1,2*], Tamara N. Simpson[1], Talitha C. Ford[1,3], Grace McPhee[1], Chao Suo[4], Stephen P. Myers[5,6], Chris Oliver[7] and Con K. K. Stough[1]*

*[1] Faculty of Health, Arts and Design, Centre for Human Psychopharmacology, Swinburne University of Technology, Melbourne, VIC, Australia, [2] Institute for Breathing and Sleep, Austin Hospital, Melbourne, VIC, Australia, [3] Cognitive Neuroscience Unit, Faculty of Health, Deakin University, Melbourne, VIC, Australia, [4] Brain and Mental Health Laboratory, School of Psychological Sciences, Monash Institute of Cognitive and Clinical Neuroscience, Monash University, Clayton, VIC, Australia, [5] NatMed-Research, Division of Research, Southern Cross University, Lismore, NSW, Australia, [6] National Centre for Naturopathic Medicine, Southern Cross University, Lismore, NSW, Australia, [7] Oliver Nutrition, Pty Ltd, Lismore, NSW, Australia*

| | |
|---|---|
| Vitamin B1 (thiamine hydrochloride) | 75 mg |
| Vitamin B2 (riboflavin) | 10 mg |
| Nicotinamide | 100 mg |
| Vitamin B5 (pantothenic acid from calcium pantothenate 75 mg) | 68.7 mg |
| Vitamin B6 (pyridoxine hydrochloride) | 25 mg |
| Vitamin B12 (cyanocobalamin) | 30 µg |
| Vitamin H (biotin) | 20 µg |
| Calcium ascorbate | 145 mg |
| Ascorbic acid (total vitamin C 250 mg) | 130 mg |
| Vitamin E ( D-alpha-tocopheryl acid succinate 41.3 mg) | 50 IU |
| Magnesium phosphate | 140 mg |
| Calcium phosphate | 100 mg |
| Potassium phosphate monobasic | 117.3 mg |
| Folic acid | 150 µg |
| *Avena sativa* (oats) extract equivalent to dry seed | 250 mg |
| *Passiflora incarnata* (passion flower) extract equivalent to dry herb | 100 mg |
| Lecithin | 50 mg |
| Choline bitartrate | 25 mg |
| Inositol | 25 mg |

Research sponsored by Blackmores Institute

# Clinical studies on efficacy & potential mechanisms

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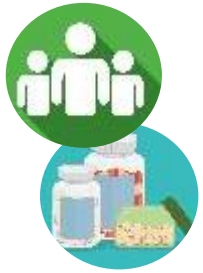
| | RCT 1 | RCT 2 |
|---|---|---|
|  | **Does the product work**: the effect on psychological and mood outcomes. | **How does the product work**: the effects on brain metabolism and blood biomarkers of oxidative stress, the effects on brain functional connectivity using brain imaging techniques. |
|  | • 3 mth RCT/DB<br>• 60 subjects<br>• 3 arms: Exec B, Exec B Sustained Release, Placebo<br>• Psychometric Q | • 6 mth RCT/DB<br>• 108 subjects for psychological outcomes (work stress, mood)<br>• 2 arms: Exec B, Placebo<br>• Sub-group 32 subjects for neural and blood biomarkers of metabolism<br>• Sub-group 28 subjects for fMRI |

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# Clinical findings on efficacy & possible mechanisms

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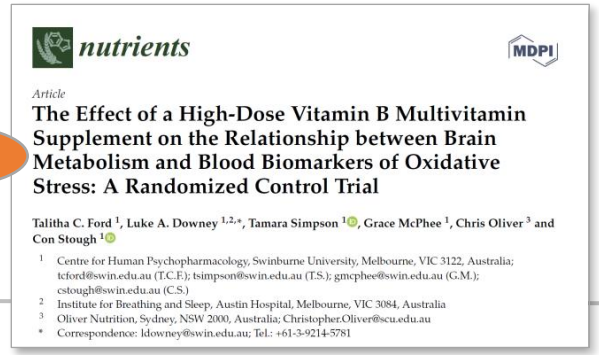
2018



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## RCT 1

Significant improvement in:

- ✓ **work stress**/ personal strain
- ✓ **depressed/dejected mood** and confusion

in the treatment group baseline vs after 3 months[1].

2019

frontiers in Nutrition

ORIGINAL RESEARCH

**Increased Posterior Cingulate Functional Connectivity Following 6-Month High-Dose B-Vitamin Multivitamin Supplementation: A Randomized, Double-Blind, Placebo-Controlled Trial**

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*[1] Faculty of Health, Arts and Design, Centre for Human Psychopharmacology, Swinburne University of Technology, Melbourne, VIC, Australia, [2] Institute for Breathing and Sleep, Austin Hospital, Melbourne, VIC, Australia, [3] Cognitive Neuroscience Unit, Faculty of Health, Deakin University, Melbourne, VIC, Australia, [4] Brain and Mental Health Laboratory, School of Psychological Sciences, Monash Institute of Cognitive and Clinical Neuroscience, Monash University, Clayton, VIC, Australia, [5] NatMed-Research, Division of Research, Southern Cross University, Lismore, NSW, Australia, [6] National Centre for Naturopathic Medicine, Southern Cross University, Lismore, NSW, Australia, [7] Oliver Nutrition, Pty Ltd, Lismore, NSW, Australia*

## RCT 2

After 6 months, participants taking active treatment Vs placebo, had significant

- ✓ **reduction in the accumulation of homocysteine[2]** (P<0.001). High homocysteine level is an indication of inflammation/ oxidative stress and has been associated with declining cognitive function.
- ✓ **Increased connectivity and activation in the parts of the brain** associated with pleasure and motivation[3] (P<0.05)

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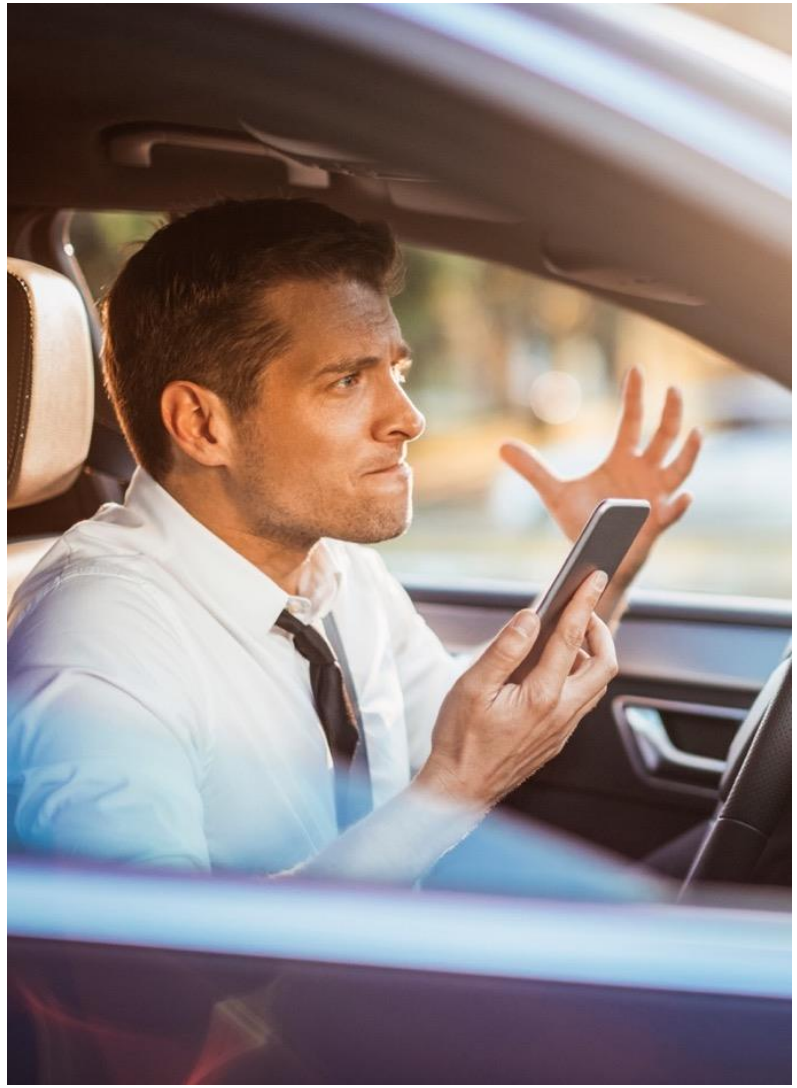
*References:*

1. *Stough C et al.The effect of 90 day administration of a high dose vitamin B-complex on work stress. Hum Psychopharmacol. 2011;26(7):470-6.*
2. *Ford TC et al. The Effect of a High-Dose Vitamin B Multivitamin Supplement on the Relationship between Brain Metabolism and Blood Biomarkers of Oxidative Stress: A Randomized Control Trial. Nutrients. 2018;10(12). doi:10.3390/nu10121860*
3. *Downey LA et al. Increased Posterior Cingulate Functional Connectivity Following 6-Month High-Dose B-Vitamin Multivitamin Supplementation: A Randomized, Double-Blind, Placebo-Controlled Trial. Front. Nutr. 2019; 6:156. doi: 10.3389/fnut.2019.00156*

# Overall results of the RCTs

- Active treatment was well absorbed > elevated blood levels of B vits.
    - B vitamins are important for brain energy and activity, are cofactors in the synthesis and regulation of dopaminergic and serotonergic neurotransmitters and contribute to DNA methylation and clearance of Hcy.
- As anticipated, active treatment resulted in reduced accumulation of homocysteine.
    - High Hcy is an indication of inflammation, a potential risk factor for cognitive decline and linked to mood disturbance.
- Activated the parts of the brain that are associated with pleasure and motivation and reduced likelihood or experiencing reduced motivation and/or reduced ability to feel pleasure
    - Improved connectivity in part of the brain associated with resilience
- Dose : 1 tablet twice daily



# Executive B Stress Formula: Brain functional connectivity

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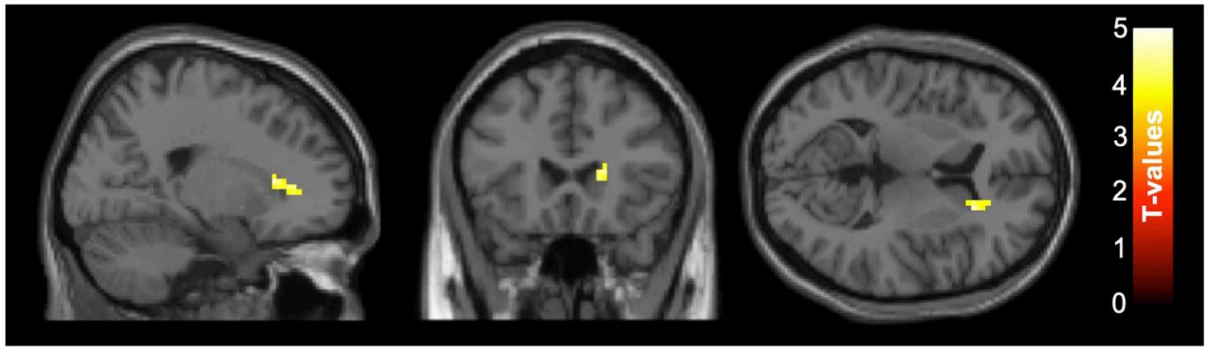
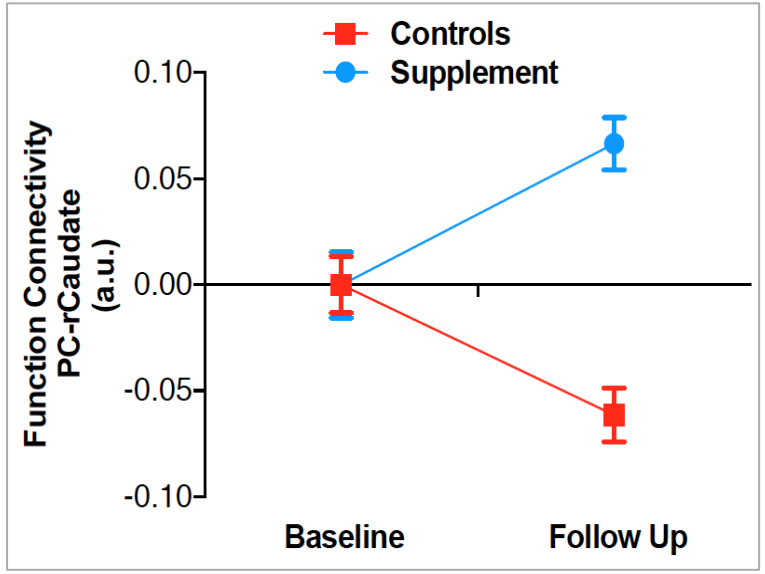
## 6-month supplementation

- ✓ Increased functional connectivity between the posterior cingulate cortex (PCC)
- ✓ and the right caudate Vs placebo (P<0.01)




Functional connectivity of the PCC at rest increased in the right caudate for the treatment group compared to the placebo group between baseline and follow-up.




(n=14)

(n=14)

Improved functional connectivity with active treatment Vs placebo seen over time

**This reflects a strengthening of connectivity in the brain areas associated with pleasure and motivation.**

*Downey LA et al. Increased Posterior Cingulate Functional Connectivity Following 6-Month High-Dose B-Vitamin Multivitamin Supplementation: A Randomized, Double-Blind, Placebo-Controlled Trial. Front. Nutr. 2019; 6:156. doi: 10.3389/fnut.2019.00156*

# Probiotics




Clinical evidence suggests that **specific probiotics can reduce the level of subjective stress** in healthy individuals and regulating the gut microbiota may alleviate symptoms of anxiety.

However, there are some inconsistencies in the human research and more investigation is required.

| | |
|---|---|
| Recommended dose | Studies have used 1 x 109 – 3 x 109 colony-forming units (CFUs) per day |
| Practice points | • Not all commercially available probiotics exhibit psychobiotic and CNS effects<br>• Select probiotic strains that have been clinically trialled for their effects on stress, anxiety and cognition |
| Safety | • Safe when used at the recommended dose. Always follow the manufacturer's recommendations for use |
| Interactions | Please visit: www.blackmoresinstitute.org/interactions/probiotics |

(Effects of regulating intestinal microbiota on anxiety symptoms: A systematic review. Zhang N et al, 2020)
(Yang B et al, 2019) (Zagórska A et al, 2020)

# Popular herbal medicines for stress and anxiety

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| Adaptogens | Calming herbs |
|---|---|
| Ashwagandha | Saffron |
| Rhodiola | Galphimia |
| Astragalus | Magnolia |
| Schisandra | Lavender |
| Siberian ginseng | Passionflower |
| Tulsi | Kava |
| | Skullcap |

# Ashwagandha

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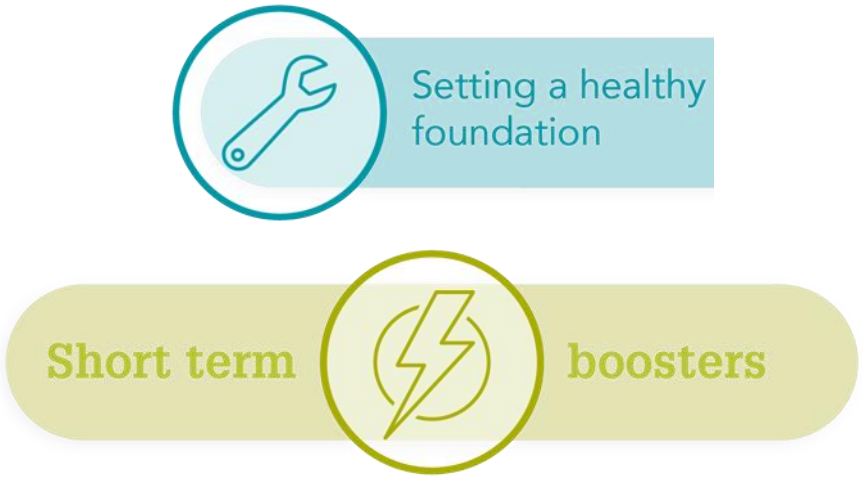
Clinical evidence indicates multiple benefits for ashwagandha in chronic stress, insomnia, anxiety, memory and cognitive improvement and use as an adaptogenic agent




| | |
|---|---|
| Recommended dose | **Stress and cognitive function:** Studies have used doses between 240 mg daily (containing 21 mg withanolide per dose) and 300 mg (standardised to withanolides) twice daily.<br>**Sleep:** 120 mg (Shoden® extract) taken 2 hours before bed, over 6 weeks<br>**Improving sleep in the elderly:** 600 mg (KSM-66®) daily over 12 weeks |
| Practice points | • This is a well-tolerated herb with no serious adverse events reported in clinical studies. Side effects, if present, are reversible and mild, tend to be limited to loose stools and epigastric discomfort, and possibly sleepiness |
| Safety | • Safety in pregnancy and breastfeeding is unknown, so use with caution |
| Interactions | Please visit:<br>www.blackmoresinstitute.org/interactions/ashwagandha |

(Tandon N, Yadav SS, 2020)

# Background on Ashwagandha

Also known as Withania somnifera, Winter Cherry, Indian ginseng (but not a ginseng)

Found in drier parts of India, Pakistan, Afghanistan, Sri Lank, South Africa, and Morocco

In Sanskrit (language of ancient India), ashwagandha means “horse’s smell (ashwa = horse and gandha = smell)”

When consumed is believed to provide ‘horse-like power’

In Ayurveda is classified as a rasayana (a way of attaining excellence/ path of essence/ rejuvenation)

# Ashwagandha: Stress and Anxiety Human Trials

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| Study | Population | Study design | Intervention | Outcomes |
|---|---|---|---|---|
| | | **Clinical populations** | | |
| Fuladi, et al, 2020 | 40 adults with generalised anxiety disorder (currently taking SSRI) | 6-week randomised, placebo | 1g ASH extract daily | Improvements in anxiety and reductions in GAD severity |
| Khyati and Anup, 2013 | 86 adults with generalised anxiety disorder | 8-week randomised, placebo | 4g, 3 times daily of dried ASH root | Improvements in anxious mood |
| Andrade et al. 2000 | 39 adults with a diagnosed anxiety disorder (e.g., generalised anxiety disorder, mixed anxiety and depression, panic disorder, or adjustment disorder) | 6-week randomised, placebo | 250mg, twice daily of ASH extract (Aswal®) | Reduction in anxiety but not significantly different to placebo (positive trend) |

Adapted from: Lopresti & Smith. Ashwagandha (Withania somnifera) for the treatment and enhancement of mental and physical conditions: A systematic review of human trials. Journal of Herbal Medicine. 2021, 28, 100434

# Ashwagandha: Stress and Anxiety Human Trials

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| Study | Population | Study design | Intervention | Outcomes (compared to placebo) |
|---|---|---|---|---|
| | | **'Healthy' populations** | | |
| Salve et al. 2019 | 40 adults experiencing high stress | 8-week randomised, placebo | 125 mg or 300mg of ASH root extract (KSM-66®), twice daily | Improvements in stress, anxiety (high dose only), and sleep quality |
| Lopresti, et al. 2019 | 60 adults experiencing mild anxiety | 8-week randomised, placebo | 240 mg of ASH root and leaf extract (Shoden®), once daily | Improvements in anxiety |
| Choudhary, et al. 2017 | 52 overweight adults experiencing chronic work stress | 8-week randomised, placebo | 300mg of ASH root extract (KSM-66®), twice daily | Improvements in stress and food cravings |
| Chandrasekhar et al 2012 | 64 adults experiencing high stress | 8-week randomised, placebo | 300mg of ASH root extract (KSM-66®), twice daily | Improvements in stress and general health |
| Auddy et al., 2008 | 130 adults with anxiety | 8-week randomised, placebo | 125 mg (once daily), or 125mg (twice daily), or 250mg (twice daily) of ASH root and leaf extract (Sensoril®) | Improvements in anxiety, with dose response effects |

Adapted from: Lopresti & Smith. Ashwagandha (Withania somnifera) for the treatment and enhancement of mental and physical conditions: A systematic review of human trials. Journal of Herbal Medicine. 2021, 28, 100434

# Effects on general wellbeing

RCT/DB examining the effects of ashwagandha on general wellbeing in 50 adults aged 65 - 80 years

Placebo Vs Ashwagandha extract (KSM-66®) 600 mg/daily for 12 weeks

Results:

- Ashwagandha use led to significantly greater improvements in **quality of life** scores as measured by the World Health Organization Quality of Life (WHOQOL-BREF) questionnaire.
- Greater improvements in the WHOQOL-BREF total score and global, physical, psychological, and environment domain scores Vs placebo.
- Ashwagandha was also associated with significantly greater improvements in ratings of **mental alertness on waking and sleep quality.**

S.B. Kelgane, et al;Efficacy and tolerability of ashwagandha root extract in the elderly for improvement of general well-being and sleep: a prospective, randomized, double-blind, placebo-controlled study; Cureus, 12 (2) (2020), p. e7083

# Sleep – are we getting enough?

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# Are we getting enough ?

Between **33% and 45% of Australian adults experience inadequate sleep duration or poor sleep health.**

**Approx. 25% of NZ adults have a chronic sleep problem.**

**We're sleeping LESS.** The Sleep Health Foundations' National Survey reported a decline in sleep quantity over the past decade, **from 7.4 hr to 7 hrs**.

12% of Australian adults reported a sleep duration of less than 5.5 hours, and 8% reported sleep durations greater than 9 hours. U-shaped mortality curve with **7-9 hrs** optimal

Meaklin H et al; Sleep Health 6 (2020) 636e650

# Sleep and mental health

People with insomnia are **10 and 17X more likely** than those without insomnia to experience clinically significant levels of depression and anxiety, respectively

Furthermore, a meta-analysis of 21 longitudinal studies reported that people with insomnia at baseline had a **2X risk of developing depression** at follow-up compared with people who did not experience insomnia

(Taylor DJ, Lichstein KL, Durrence HH, Reidel BW, Bush AJ. Epidemiology of insomnia, depression, and anxiety. Sleep. 2005;28(11):1457–64).
(Baglioni C, Battagliese G, Feige B, Spiegelhalder K, Nissen C, Voderholzer U, et al. Insomnia as a predictor of depression: a meta-analytic evaluation of longitudinal epidemiological studies. J Affect Disord. 2011;135(1–3):10–9. )

# Sleep affects mental health - 2021 meta-analysis

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Improving sleep quality had, on average, **a medium-sized effect on mental health,** including clear evidence that **improving sleep reduced depression, anxiety, and stress.**

A **dose-response relationship** identified **greater improvements in sleep > greater improvements in mental health**

The effect of improving sleep quality on composite mental health was medium-sized and statistically significant, **regardless of the presence of physical and/or mental health comorbidities.**

Scott AJ, Webb TL, Martyn-St James M, Rowse G, Weich S, Improving Sleep Quality Leads to Better Mental Health: A Meta-Analysis of Randomised Controlled Trials, Sleep Medicine Reviews, https://doi.org/10.1016/j.smrv.2021.101556.

# Insomnia

| Common causes of sleep onset insomnia (Falling asleep) | |
|---|---|
| Stress and anxiety | Disruptive environment |
| Environmental change | Sleep phobia |
| Fear of insomnia | Certain medications |
| Pain or discomfort | Emotional Arousal |
| Alcohol | Older age |
| Caffeine and other stimulants | Circadian rhythm disturbance |
| Dyspepsia and gastro-oesophageal reflux | |

| Common causes of sleep maintenance insomnia (Frequent wakening) | |
|---|---|
| Depression | Pain or discomfort |
| Environmental change | Older age |
| Parasomnias (nightmares) | Dyspepsia and gastro-oesophageal reflux |
| Alcohol | Certain medications |
| Sleep apnoea | Circadian rhythm disturbance |
| Restless leg syndrome or leg cramps | Benign prostatic hypertrophy (BPH) |
| Hypoglycaemia | |

**Common causes of sleep onset and sleep maintenance insomnia** (Nowicki J, Murray M, 2020)

# Non-drug options to manage sleep disturbance and insomnia

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Cognitive behavioural therapy (CBT) and cognitive restructuring

Progressive relaxation therapy

Sleep environment

- Dark, cool and quiet
- Reset the circadian rhythm

Warm bath

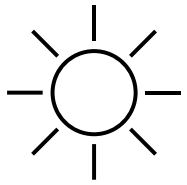
- + aromatherapy oils e.g., lavender

Stimulus control therapy

- keep a fixed wake time
- avoid napping
- sleep only when sleepy

Exercise

- 50 minutes/ day moderate intensity
- Include strength training – which improves anxiety depression and sleep



**Exposure to morning sunlight**

**Use red lenses 1-2h before sleep**

**Ensure alarm clock is out-of-sight**

# Nutrients and herbs for sleep

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Sleep support

| Nutrients | Herbs |
|---|---|
| Glycine | Hops |
| L-theanine | Lemon balm |
| L-tryptophan | Passionflower |
| Magnesium | Valerian |
| Melatonin* | Withania |

# Magnesium

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Setting a healthy foundation | Enhanced focus and mental performance | Calming support

Clinical evidence suggests magnesium supplementation may have a beneficial effect on subjective anxiety and relieves anxiety symptoms in anxiety-vulnerable individuals and people with low magnesium status (hypomagnesemia).


| | |
|---|---|
| Recommended dose | **Stress:** Adults: 300 - 350 mg magnesium (elemental) per day, for a minimum of 4 weeks<br>**Sleep:** Adults: 250 mg magnesium (elemental) twice daily for 8 weeks. |
| Practice points | • Oral magnesium supplements are primarily used for conditions involving muscle spasm and cramps, tension and pain, or psychological and physical symptoms of stress and hyper-excitability<br>• Selecting the correct form of magnesium is important for a successful outcome<br>• Magnesium supplementation may cause a transient loosening of the bowel. In such cases, recommend splitting the dose throughout the day |
| Safety | • In high doses, some magnesium supplements can cause diarrhoea<br>• High-dose supplements should not be used by people with severe kidney disease or heart block |
| Interactions | Please visit: www.blackmoresinstitute.org/interactions/magnesium |

(Boyle NB, 2017) (Pouteau E et al, 2018)

# Valerian

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Sleep support

Calming support

Clinical evidence suggests that valerian modestly reduces the time to sleep-onset (sleep latency) and improves subjective sleep quality.

More consistently positive results are seen when used in combination with other herbs such as lemon balm, passionflower and hops


| | |
|---|---|
| Recommended dose | **Sleep:** Valerian dried root extract: >600 mg per day (1 hour before bedtime).<br>**Infusion:** 9 g per day dried root. |
| Practice points | • Morning drowsiness is rare at standard doses due to improvement of sleep parameters and no inhibition of REM sleep phases |
| Safety | • Valerian is safe when used at the recommended dose<br>• No increase in alcohol toxicity, if combined<br>• No adverse effects shown in driving studies<br>• Safety in pregnancy and breastfeeding has not been establish, so caution is advised |
| Interactions | Please visit: www.blackmoresinstitute.org/interactions/valerian |

(Fernández-San-Martín MI et al, 2010) (Sarris J, Byrne GJ, 2011) (Leach MJ, Page AT, 2015) (Bent S et al, 2006).

# Lifestyle and stress

- Exercise been shown to reduce symptoms in people with anxiety and stress-related disorders.
- Meditation helps regulate stress responses, suppressing chronic inflammation and maintaining a healthy gut-barrier function.
- Higher levels of neighborhood green space are associated with reduced symptoms of stress, depression and anxiety. Positive psychology approaches such as focus on personal meaning & gratitude
- Massage therapy – its obvious #chiropractors ☺
- Social support – far more important than people realise

(Stubbs, 2017) (Household, 2017) (Beyer, 2014)

# Food affects mood

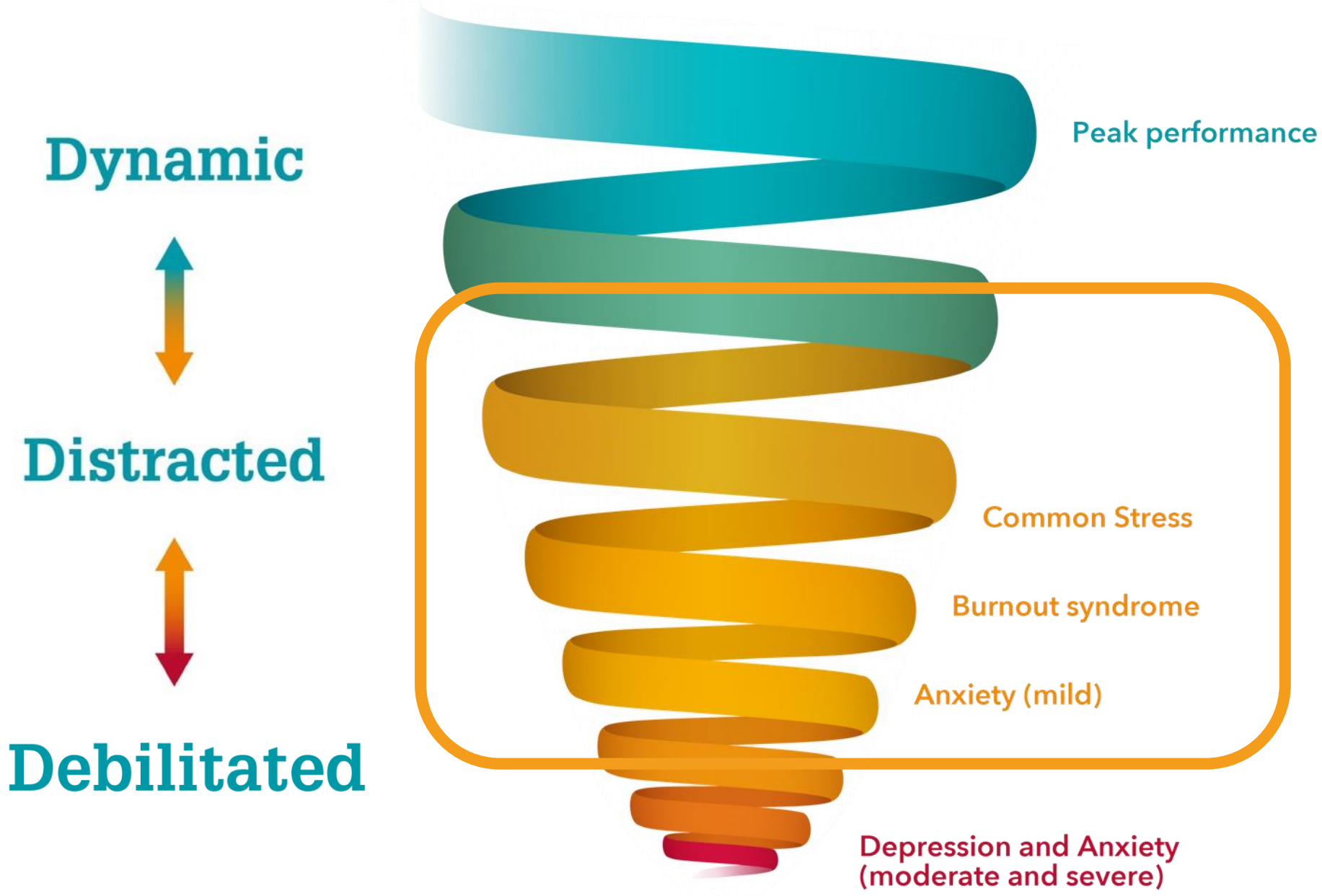
People who eat 470g of fruit and vegetables daily have 10% lower stress than those who consume only 230g daily

2019 SR review found that ‘adhering to a healthy diet, in particular a traditional **Mediterranean diet**, or avoiding a pro-inflammatory diet appears to confer some protection against depression in observational studies.’ The benefits of these diets appear to be due to common elements such as:

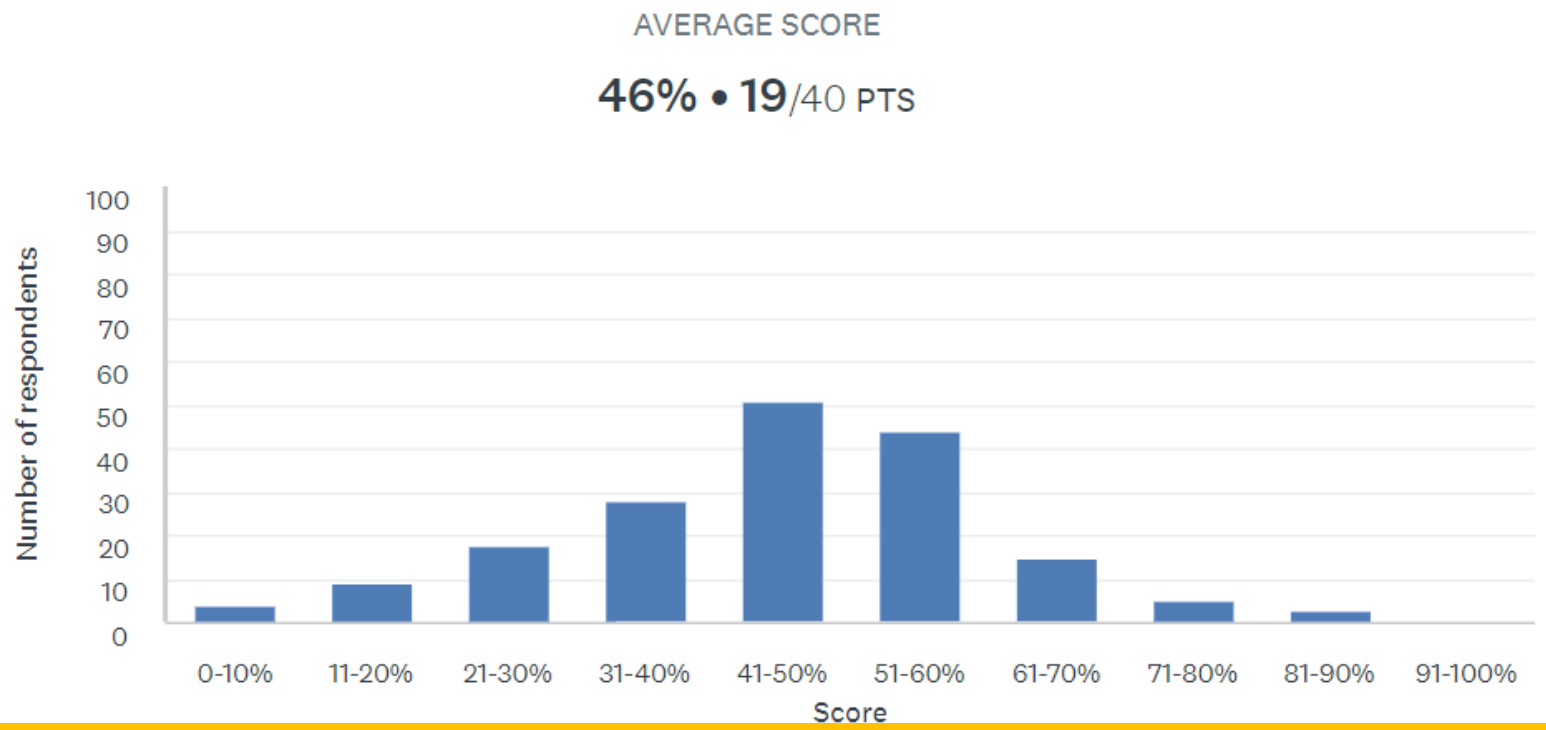
- higher fruit, vegetable, and nut intake,
- lower intake of pro-inflammatory food items such as processed meats and trans fats, and
- alcohol in moderation

(Radavelli-Bagatini, 2021) (Lassale, 2019)

# The Mental Wellbeing Spiral



# The PSS (Perceived Stress Score)




**177 people completed the questionnaire**. Average collective score is **19 out of 40** points which falls into '**Moderate perceived stress**' category.

- 38 x low perceived stress
- 134 x moderate perceived stress
- 5 x high perceived stress

EXAMPLE
Insert Correct Slide with ACA Results

# Where are you sitting on the spiral today ?

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## What can we do?

Quantify personal stress levels and notice when there's movement up & down the spiral

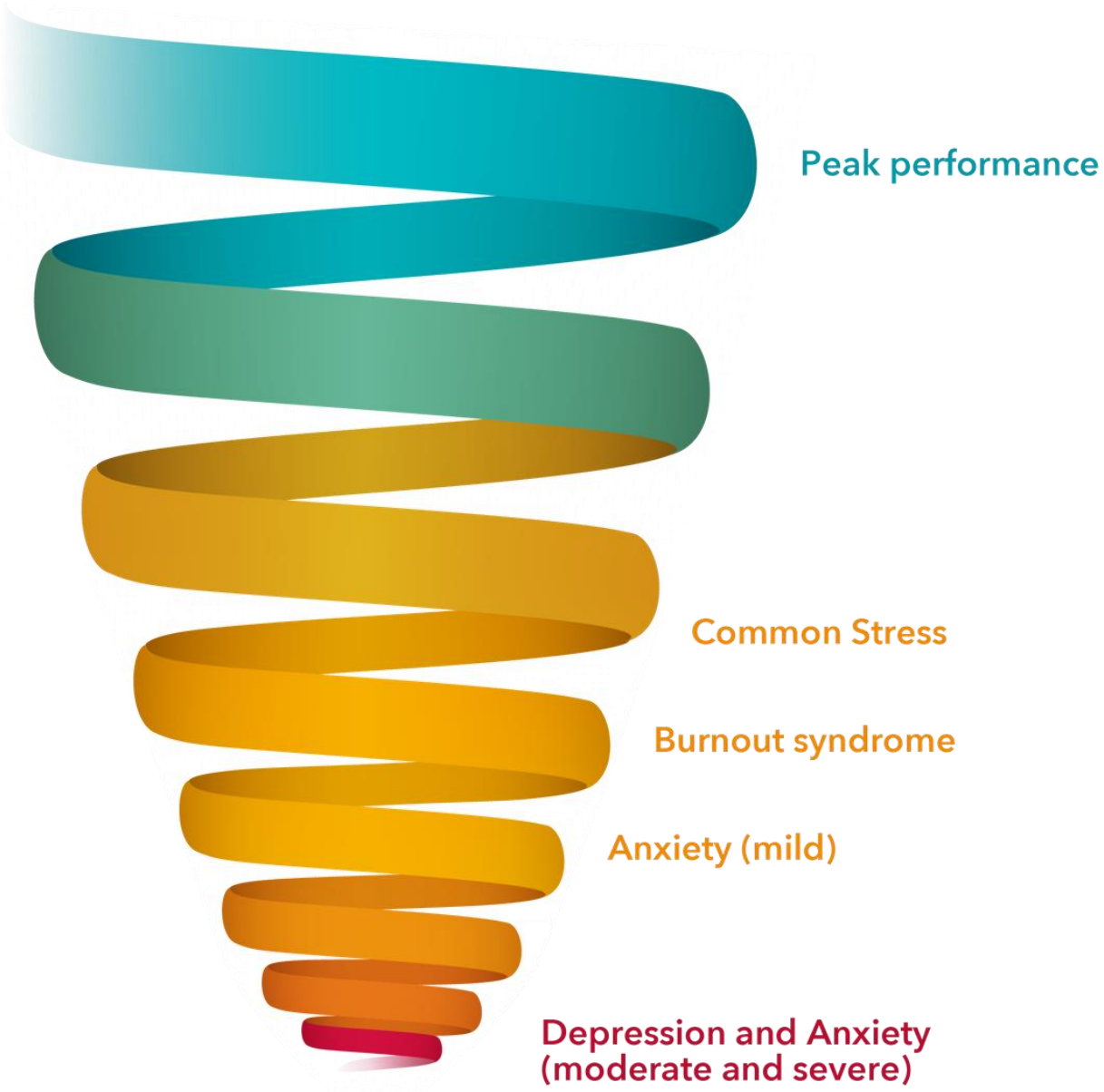
Maintain a strong foundation with good diet and lifestyle habits

Actively incorporate specific stress-relieving activities such as meditation, journaling, play, whatever works for you - *building mental wellbeing doesn't happen by itself*

Remember to fuel up and address increased nutritional requirements during higher stress periods and avoid starving our nervous system

Consider whether builder + booster combinations are needed to strengthen and speed up response

Seek professional support when necessary



# For more information

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Medicine



4 Perspectives PODCAST

THE MENTAL HEALTH CRISIS: PROMOTING WELLBEING FOR OUR PATIENTS AND OURSELVES

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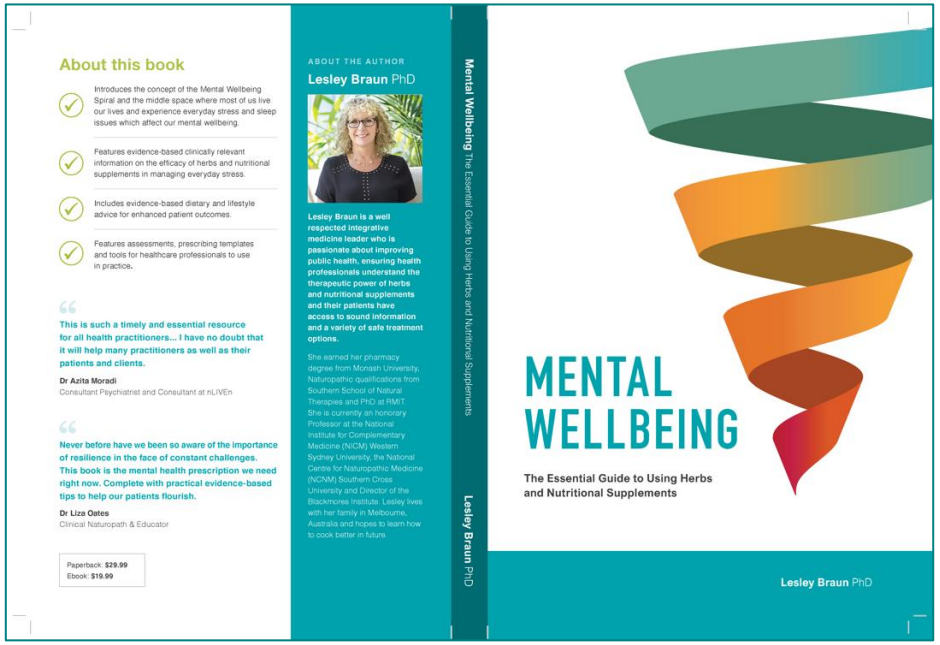


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THANK YOU ☺