

MAGNESIUM, VITAMIN B6 AND STRESS



WHAT IS STRESS?

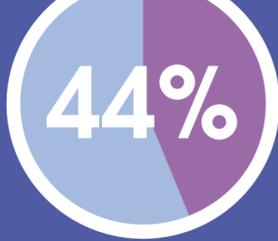
The word stress is often used to describe the feelings that people experience when the demands made on them are **greater than their ability to cope**.¹

At such times people can often feel **overloaded, under tremendous pressure and very tense or emotional**.¹

Prolonged periods of stress can have **serious effects on physical and mental health**, causing serious physiological effects including **cardiovascular disorder**², **reduced short term memory**³, **insomnia**⁴ and **an impaired immune system**.⁵

BURDEN OF STRESS

Stress, anxiety and depression accounted for the majority of days lost due to work-related illness, with an average of **23.8 days off work** for each affected individual in 2016/17.⁶



44% of UK adults feel stressed with over a third of these (36%) stating they've been stressed for more than six months...



...and over a quarter (28%) reporting that they've been stressed for more than a year.⁷

Over a quarter of people suffer from stress at least once a week, yet 44% waited for it to pass and did nothing the last time they experienced it.⁸

DEFEATING STRESS

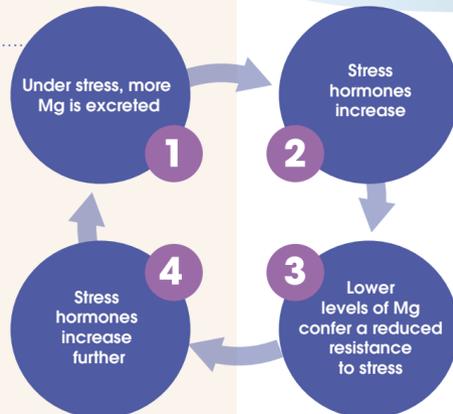
MAGNESIUM

A diet low in magnesium (Mg) is associated with **stress**.^{9,10,11}

Yet **the majority** of people consume less than the recommended levels of dietary Mg.¹²

Mg helps to moderate the response to stress however it is also depleted by stress

THE VICIOUS CIRCLE¹³



Mg supplementation has been shown to alleviate stress by **diminishing the stress reaction**, reducing the production of stress hormones including cortisol.¹²



VITAMIN B6

Deficiency in vitamin B6 (vitB6) is linked to **irritability, sleep disruption and depression**.¹³



As many as 10% of people are deficient in vitB6.¹⁴

VitB6 is key in the **production of a range of stress-alleviating neurotransmitters** including dopamine and serotonin, with even mild deficiency resulting in the reduction of synthesis.¹⁴

VitB6 contributes to Mg metabolism and homeostasis, and therefore it can improve the benefits of Mg in stress regulation.¹⁵

MAGNESIUM WITH VITAMIN B6

THE TRIAL

- The first trial to evaluate the effects of combined oral Mg and vitB6 in the treatment of stress.

Phase IV trial involving:

264 Healthy adults **61%** with a Depression Anxiety Stress Scale (DASS-42) subscale score of severe/extremely severe

Mean Mg of **<0.85 mmol/L** (low magnesemia).

300mg Mg was assessed against **300mg Mg with 30mg vitB6**, taken per day for eight weeks.



HOW WAS STRESS MEASURED?

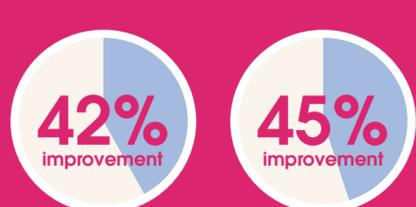
The DASS-42 is a clinically validated self-reported measure of:

Depression | Anxiety | Stress

The stress component of DASS-42 comprises 14 questions on a 4-point scoring scale from 'did not apply at all' to 'applied to me very much'.^{16,17}

THE RESULTS

Reduced stress in the total treated population:



Mg with vitB6 showed **significantly greater improvement in people who are severely stressed** than Mg alone.

Severe/extremely severe stress = DASS-42 stress subscale score 26-42



Mg with vitB6, vs Mg (p=0.0203)

Both interventions were well tolerated with good safety profiles. The most common treatment-related adverse event was diarrhea (4.5% in Mg and VitB6, 7.6% in Mg).

THE FUTURE

- Mg with vitB6 demonstrated an excellent safety profile for moderately stressed adults and showed superior benefits in severely stressed individuals**
- Further studies are needed to establish **long-term effects**.

SANOFI Empowering Life

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