

SUPERIORITY OF MAGNESIUM AND VITAMIN B6 OVER MAGNESIUM ALONE ON SEVERE STRESS IN HEALTHY ADULTS WITH LOW MAGNESEMIA

A RANDOMIZED, SINGLE-BLIND, CLINICAL TRIAL

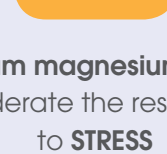
Primary Objective

To compare the effect of magnesium and vitamin B6 (Magne B6®) supplementation vs magnesium supplementation alone on perceived stress

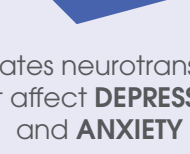
WHY was the trial carried out?

Work-related stress has been shown to affect up to **28%** of adults in the EU¹

Physiological interactions between magnesium deficiencies and stress have been well-documented²⁻⁴



Serum magnesium can moderate the response to **STRESS**



Modulates neurotransmitters that affect **DEPRESSION** and **ANXIETY**



In combination may exhibit beneficial **SYNERGISTIC EFFECTS** on **SEVERE STRESS**

WHO took part in the trial?



WHERE was the trial carried out? **4** locations in France

How was the trial carried out?

Phase IV clinical trial



How was stress measured?

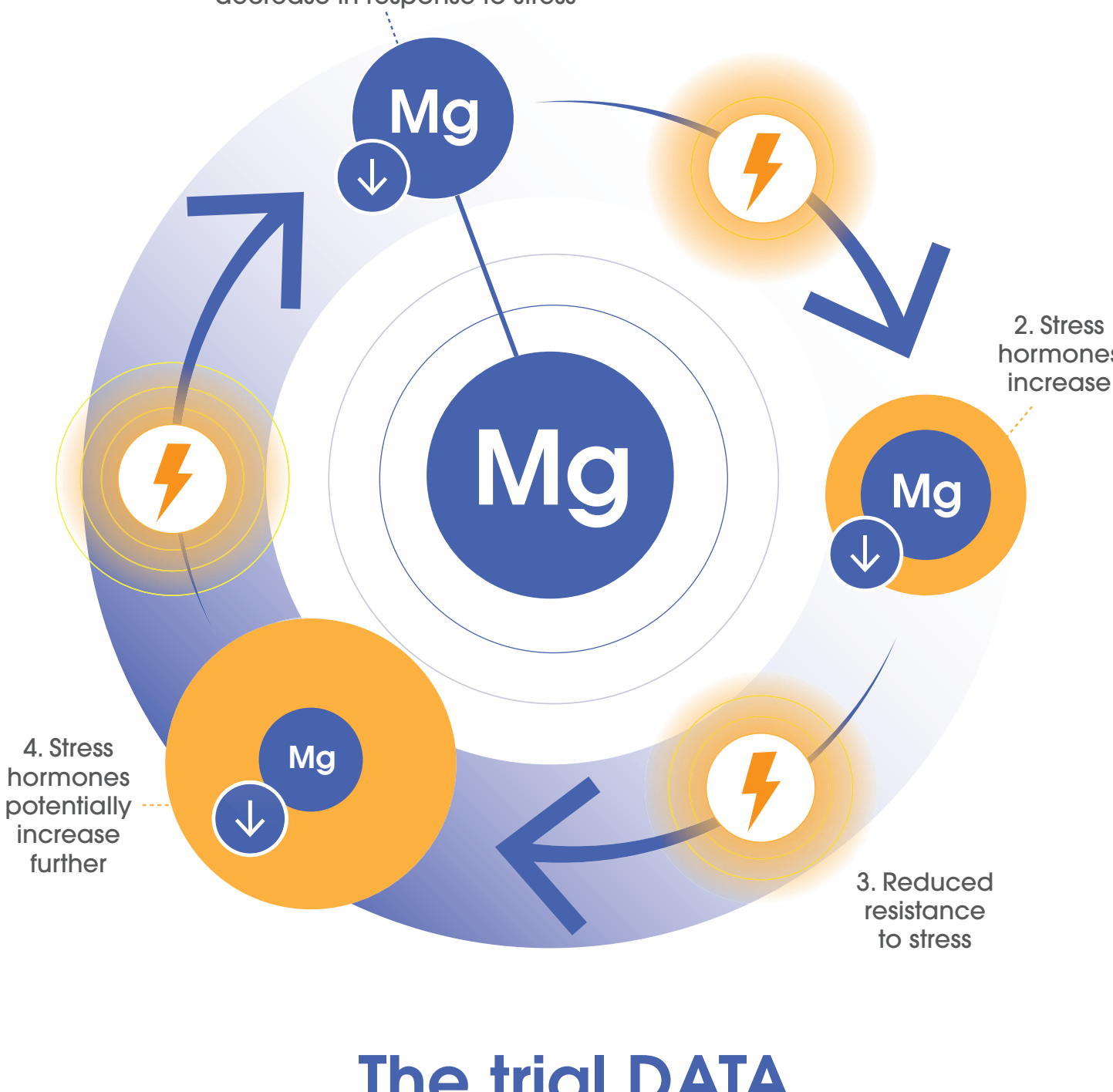
Using the Depression Anxiety Stress Scale (DASS-42)^{5,6} a **CLINICALLY VALIDATED** self-reported measure of:

The **STRESS** component of DASS-42 comprises 14 questions with a 4-point scale of scoring



SCORING SCALE
 0 = did not apply to me at all;
 1 = applied to me to some degree, or some of the time;
 2 = applied to me a considerable degree, or a good part of the time;
 3 = applied to me very much, or most of the time

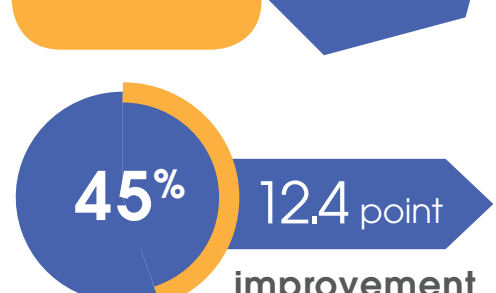
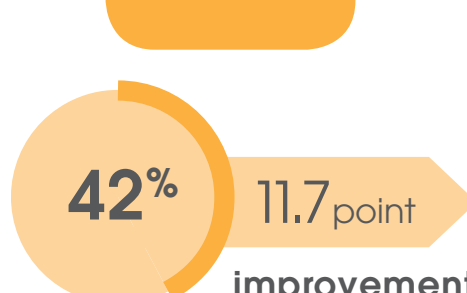
Stress and magnesium: a vicious circle



The trial DATA

WHAT were the results

Both interventions saw a **MARKED REDUCTION IN STRESS** (as measured by DASS-42) in the total (mITT) population* at Week 8[†]



Subgroup analyses^{§,¶}

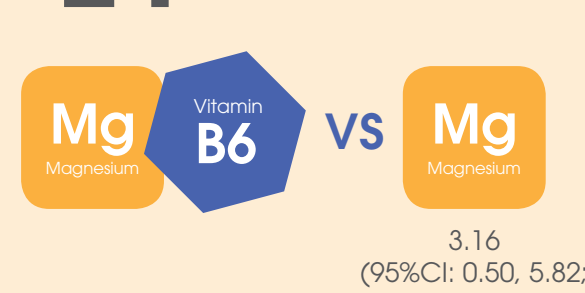
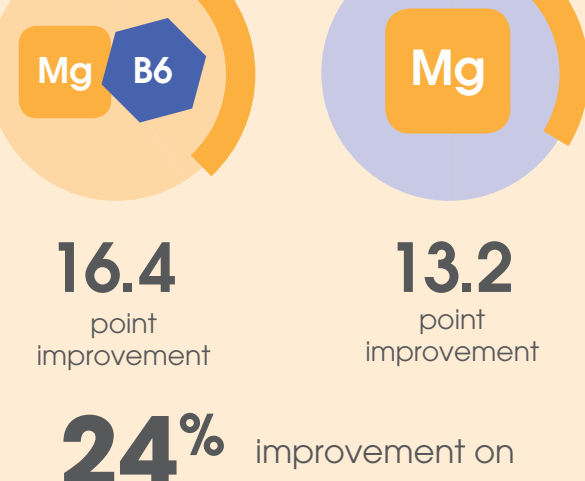
Week 8

mITT n=162

mITT n=102

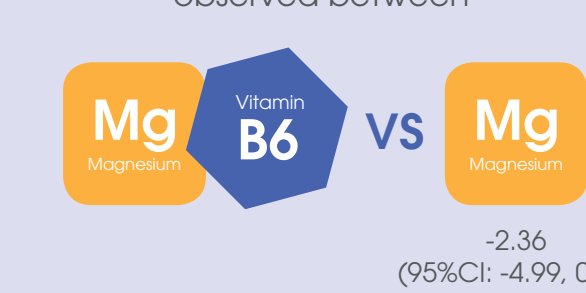
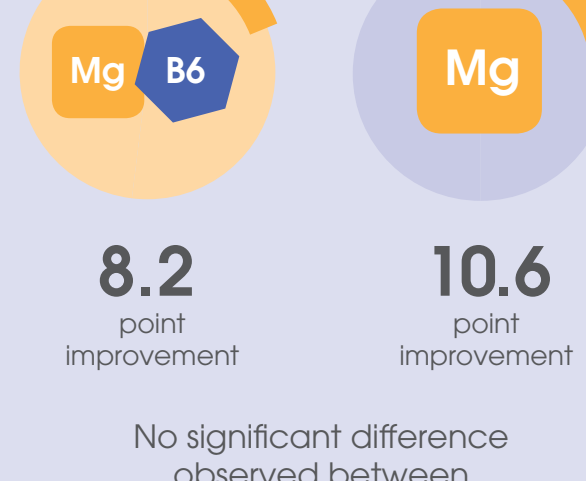
Severe/extremely severe stress

DASS-42 stress subscale score 26–42



Normal/moderate stress

DASS-42 stress subscale score 0–25

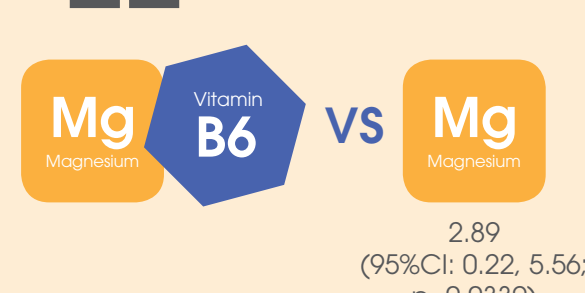
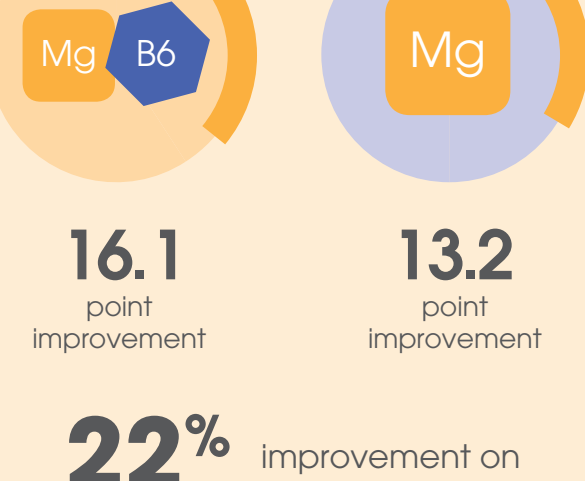


PP n=160

PP n=73

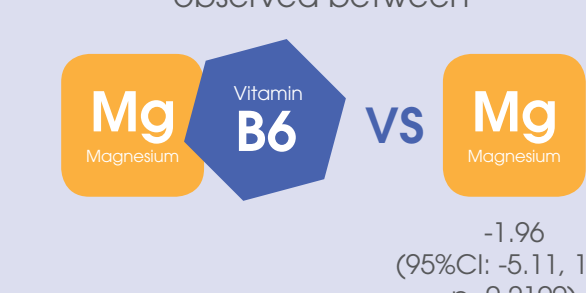
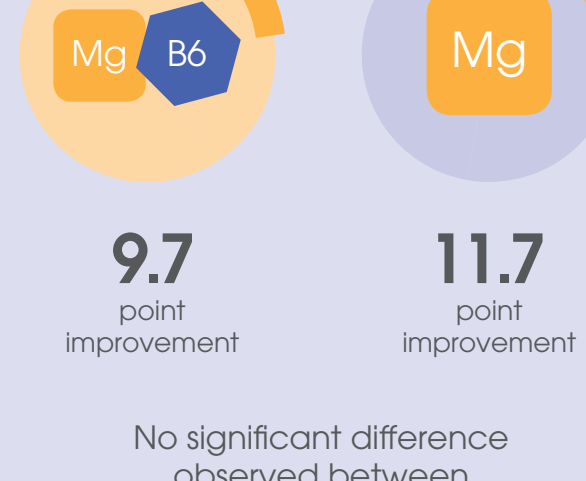
Severe/extremely severe stress

DASS-42 stress subscale score 26–42



Moderate stress

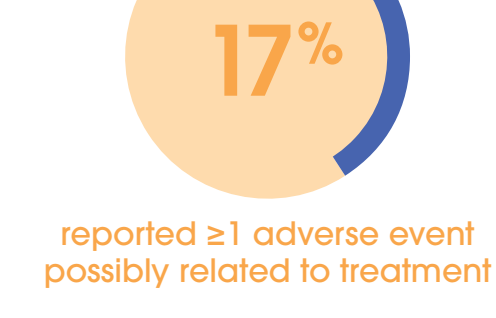
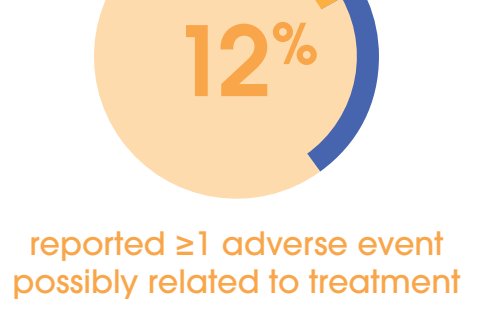
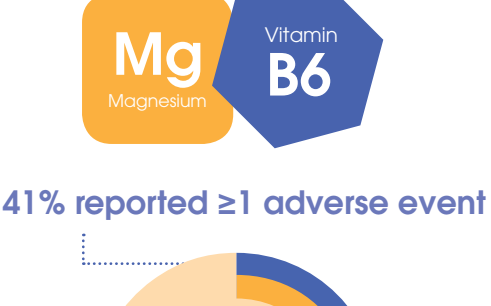
DASS-42 stress subscale score 19–25



Significantly greater improvements observed in severely stressed subjects

SAFETY

Both interventions had similar safety profiles



The most common treatment-related adverse events were...



TO CONCLUDE...

Magnesium supplementation alone and Magnesium plus vitamin B6 supplementation reduced stress (by DASS-42) in all adults with low magnesemia



SEVERELY STRESSED individuals had the **GREATEST BENEFIT** with **MAGNESIUM PLUS VITAMIN B6 SUPPLEMENTATION**



Studies of longer duration are needed to determine **LONG-TERM EFFECTS**

EudraCT Number: 2015-003749-24. The trial was funded by Sanofi-Aventis Groupe, Gentilly, France, the manufacturer of Magne B6®

*mITT, modified Intention-To-Treat population. Included all subjects with an evaluable DASS-42 stress subscale score at baseline and at least one other time point during the treatment period.

†Similar results were observed at Week 4 and in the PP population.[†]

‡PP, Per Protocol Set. Included all participants in the mITT without any major protocol deviations. The PP excluded patients with baseline DASS-42 stress subscale scores ≤18.

§Similar results were observed at Week 4.

¶In conjunction with EMA guidelines,⁷ a predetermined subgroup analysis was carried out following the identification of heterogeneous benefits demonstrated within the treatment groups.

References

1. Third European survey on working conditions. 2000. https://www.eurofound.europa.eu/sites/default/files/ef_publication/field_ef_document/ef0121en.pdf. Accessed August 2018.
2. Jung KH, Cox SM, Ong JH, Song CH. Associations of serum Ca and Mg levels with mental health in adult women without psychiatric disorders. *Biol Trace Elem Res*. 2010;133:153.
3. Abbas B, Kimogari M, Sadeghniai K, Shirazi MM, Hedayati M, Rashidkhani B. The effect of magnesium supplementation on primary insomnia in elderly: A double-blind placebo-controlled clinical trial. *J Res Med Sci* 2012;17(12):1161–1169.
4. Zogova D, Reiss V, Dmitriyevskaya G, et al. Pituitary-gonadal, pituitary-adrenocortical hormones and IL-6 levels following long-term magnesium supplementation in male students. *J Med Biochem* 2014;33(3):291–298.
5. Brown TA, Chorpita BF, Korotitsch W, Barlow DH. Psychometric properties of the Depression Anxiety Stress Scales (DASS) in clinical samples. *Behav Res Ther* 1997;35(1):79–89.
6. Lovibond SH, Lovibond PF. *Manual for the Depression Anxiety Stress Scales*. 2nd ed. Sydney: Psychology Foundation.
7. Committee for Proprietary Medicinal Products (CPMP). Points to consider on adjustment for baseline covariates. 2003. http://www.ema.europa.eu/docs/en_GB/document_library/Scientific_guideline/2009/09/WC500036397.pdf. Accessed April 2018.