



# An overview of vitamin B in food supplements

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## INTRODUCTION

Over last decade, **sales of vitamins have had a significant increase worldwide**. The growth of self-diagnosis and self-medication by consumers and the general misperception that natural products are harmless have contributed to increased consumption of food supplements.

Despite their beneficial effects and being involved in numerous metabolic and physiological processes, excess intake of vitamins is not innocuous. Although reports of toxic events due to vitamins are scarce, these products are often consumed during extended periods of time, **without any control or medical supervision**.<sup>1-4</sup>

## AIM

The aim of this study was to evaluate whether **vitamin B (VitB) daily dose indicated on food supplements (FS) labels** coincided with the **recommended daily allowance (RDA)** for this vitamin defined by European Union Directive<sup>7</sup> for these vitamins.

## METHODS

A total of 80 FS sold in Portuguese pharmacies, supermarkets, health shops and on internet were examined for indicated label daily intake of **vitamin B1, B2, B3, B5, B6, B7 and B12** and compared with the respective RDA for each vitamin.

Selection criteria included: **oral solid** pharmaceutical forms for **adults**, **containing vitB** in its composition, as stated in the label, regardless of the purpose of the FS.

## RESULTS

Table I – RDA<sup>5</sup> for vitB versus maximum FS labeled values

Vit	RDA	Max label (daily dose)
B1	1.1 mg	100 mg
B2	1.4 mg	50 mg
B3	16 mg	100 mg
B5	6 mg	100 mg
B6	1.4 mg	50 mg
B7	50 µg	450 µg
B12	2.5 µg	1000 µg

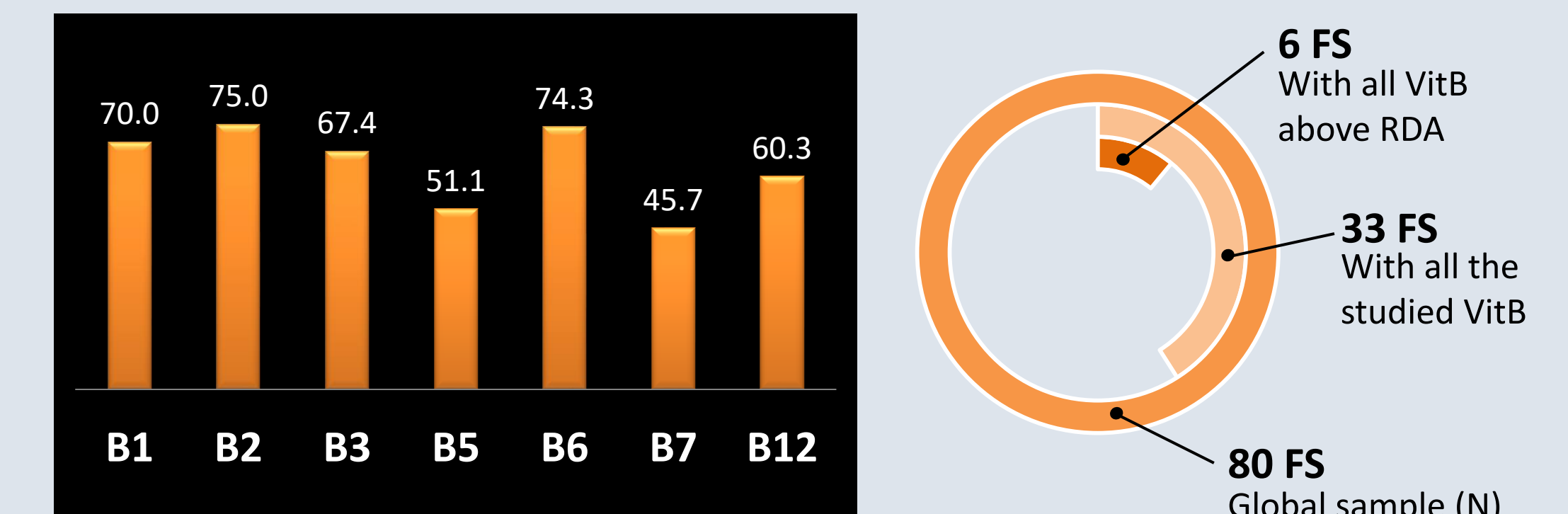


Figure I – % FS with vitB label daily doses above RDA

Although **vitB6** is a co-factor of several enzymatic reactions, long term use of high-doses can lead to **adverse health effects**<sup>6-7</sup>:

- Neurological (sensory neuropathy)
- Dermatological (photosensitivity, skin rashes)
- GI (nausea, vomiting, abdominal pain, loss of appetite)

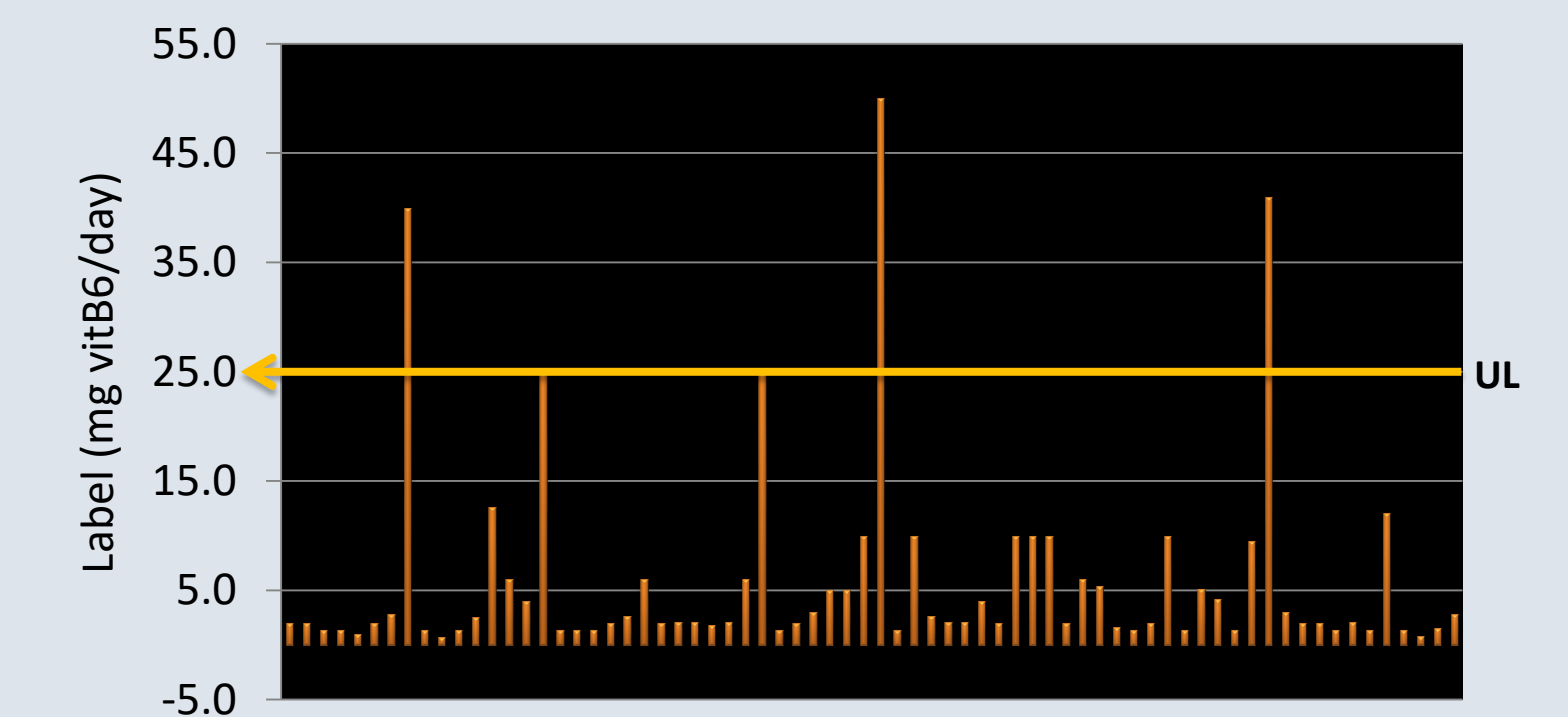


Figure II – 4 FS presented a vitB6 daily dose  $\geq$  tolerable upper intake level defined by EFSA<sup>8</sup> (UL=25 mg/day)

## CONCLUSIONS

- The majority of FS presented vitB far above defined RDA and some above vitB6 UL.
- It is crucial that the daily doses present in FS are reviewed ensuring the safety of these products.