

The impact of a combined multivitamin and blueberry supplement on sleep duration and quality and cognition in healthy adults: results from a pilot study

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Background By 2050, the number of people aged 60 years and over is projected to reach 2 billion, of which an estimated 8% will have dementia. Emerging evidence suggests multivitamin and polyphenol supplements may improve cognition, however no study has investigated the combined effect of these compounds. Moreover, the mechanisms are still to be elucidated. The aim of this pilot study was to investigate the influence of a combined multivitamin and blueberry extract multinutrient intervention on cognition and sleep in healthy adults.

Methods 32 participants (43±7 yrs, 13% male) were recruited from across the United States using an online participant database. Treatment consisted of a 12-week supplementation with a combined multivitamin and blueberry extract (Vitals+, Heights, UK). Self-reported memory problems, working memory (word recall), objective (wearables) and self-reported measures of sleep quality and duration were measured at baseline, weeks 4, 8 and 12. Differences in outcome measures across intervention time points were assessed using repeated measures ANOVA with Bonferroni correction ($p < 0.05$ was considered significant). Data is presented as mean±SD.

Results At weeks 8 and 12, significant improvements in word recall ($p < 0.001$) and self-reported memory problems ($p < 0.001$) were observed. For sleep, there was a significant increase in objective mean hours slept, from 6.2 ±1.4 hours at baseline to 7.2 ±1.1 hours at week 12 ($p < 0.001$). There was significant decreases in self-reported difficulty falling asleep ($p < 0.001$) and sleep disturbance frequency ($p < 0.001$) at weeks 8 and 12 but no difference across time points for self-reported hours slept ($p = 0.196$) (**Figure 1**).

Conclusion A multivitamin combined blueberry extract was able to improve self-reported memory problems and performance in a working memory task, possibly through improving sleep duration. The multinutrient may present a cost-effective and easily accessible means to improve cognition and sleep in healthy adults. The findings presented here require confirmation in a large randomised controlled trial.

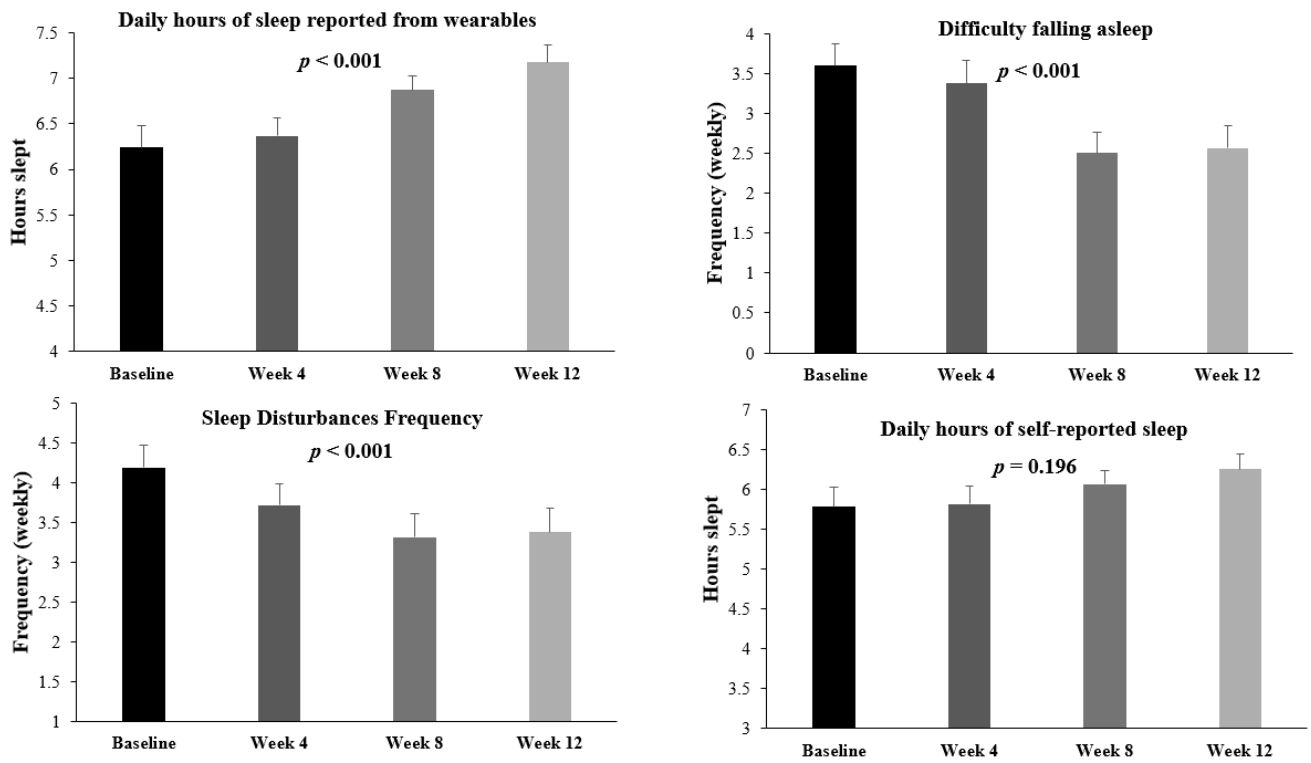


Figure 1. Sleep outcome responses to intervention. Data are expressed as mean \pm SEM. Differences were analysed by repeated measures ANOVA; $P < 0.05$ was considered significant.