



SunGold Kiwifruit and Psychological Health (GoKiPH): a randomised, crossover trial

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Gold kiwifruit consumption and increased vitamin C intake have been associated with improved mood, vitality, and wellbeing in healthy individuals^(1,2). However, to date, no studies have focussed exclusively on the efficacy of gold kiwifruit for improving such outcomes in participants with disturbed mood. A randomised crossover trial was undertaken to examine the efficacy of Zespri™ SunGold™ kiwifruit for improving psychological wellbeing and vitamin C concentrations in adults with sub-clinical levels of mood disturbance. In a two-period, non-blinded crossover trial, N=26 adults aged 21 to 60 years ($M = 36.1$, $SD = 11.0$) with mild to moderate mood disturbance were randomised to a counter-balanced sequence. Participants consumed 2x SunGold kiwifruit daily or their typical diet for four weeks, with a two-week washout between periods. The primary outcome was change in mood disturbance, with secondary outcomes including plasma vitamin C, wellbeing, vitality and gut health. Results indicated a significant time x treatment interaction effect for mood disturbance ($F(2,107.3) = 6.19$, $p = .003$) with significant improvements in mood disturbance scores between baseline and post-intervention during the SunGold kiwifruit period. A significant time x treatment interaction effect for blood plasma vitamin C ($F(2,98.5) = 3.65$, $p = .029$) also demonstrated increased vitamin C concentrations during the SunGold kiwifruit period. A significant time x treatment interaction effect for wellbeing ($F(2,104.7) = 4.5$, $p = .013$) was evident with wellbeing significantly improved between baseline and post-intervention during the SunGold kiwifruit period. The time x treatment interaction for vitality approached significance ($F(2,104.7) = 2.89$, $p = .06$) with increases in vitality following SunGold kiwifruit consumption. These results provide preliminary evidence that SunGold kiwifruit consumption improves psychological wellbeing in mood-disturbed adults, which corresponds to increased plasma vitamin C concentrations. Future research is required to replicate this effect and to further demonstrate the potential benefit of whole-food interventions for treating mood-disturbance.

Keywords: kiwifruit; mood; psychological wellbeing; vitamin C status

Ethics Declaration

Yes

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References

1. Carr AC, Bozonet SM, Pullar JM & Vissers C (2013) *J Nutr Sci* 2, e24.
2. Conner TS, Fletcher BD, Pullar JM, Spencer E *et al.* (2020) *Nutrients* 12, 9, 2898–2917.