Psychological Resilience Following an Earthquake is Promoted by a Nutritional Supplement: Individual Analyses
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Background

Individuals with pre-existing health conditions may be particularly vulnerable to exacerbation of their condition when stressed by a natural disaster such as the September 2010 7.1 magnitude earthquake that struck Canterbury.
One such group are those with Attention Deficit Hyperactivity Disorder (ADHD), as research shows that adults with ADHD demonstrate chronically higher levels of stress, anxiety, and mood-regulation problems than healthy adults (Hirvikoski, et al., 2009).
Recent international research has shown positive effects in reducing stress, anxiety, and mood difficulties in adults with ADHD (and in healthy individuals) from taking micronutrient dietary supplements containing vitamins, minerals, and amino acids (Rucklidge, et al., 2009).
Turkish research 15–18 months after a 7.6 magnitude earthquake reported a link between poor nutrition and impaired psychological recovery from the stress of the quake (Vesilyaprak, et al., 2007).
No other research has reported the effects of nutrition on post-quake resilience, but the September 2010 Canterbury earthquake provided an opportunity to do so, treating the earthquake as a natural experiment, and studying the stress of the earthquake and its aftershocks on adults, all of whom had a formal diagnosis of ADHD before the quake, but only some of whom were taking a micronutrient supplement at the time of the quake.

Method

Participants
33 adults (ages 16 +) all with formal diagnoses of ADHD and comprehensive psychological assessment performed between 6 weeks and 2.5 years pre-quake. All had experienced the earthquake.

Treatment Group: 11 men, 5 women (n = 16)
• Taking micronutrients for minimum of 2 weeks prior to quake, and since quake
• Taking at least 50% of recommended dose (15 capsules/day)
• Not taking other psychotrophic medicines.

Control Group: 9 men, 8 women (n = 17)
• Not taking micronutrients or other psychotropic medicines for at least 2 weeks prior to quake.

Measures
1. Depression, Anxiety, Stress Scale (DASS)
42 items, rated 0 - did not apply to me at all – to 3 – applied to me very much/most of the time – over the past week. (Lovibond & Lovibond, 1995)

2. Questionnaire relating to personal experience of the earthquake

Procedure
1. Baseline – Time 0: DASS etc administered at initial assessment pre-quake.
2. Time 1: 7–10 days post-quake: Telephone interview to gain consent, establish inclusion, & administer experiences questionnaire and DASS.
3. Time 2: 14–20 days post-quake: Telephone interview to re-administer DASS.

Analysis
Used a modified Brinley plot (Brinley, 1965) to show individual patterns of response over time

Group statistical analysis reported in Rucklidge et al (Psychiatry Research, in press). Mean ES = 0.69