

Abstract

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Combined vitamin B6-magnesium treatment in autism spectrum disorder.

Nye C, Brice A.

UCF Center for Autism & Related Disabilities, 12001 Science Dr, Suite 145, Orlando, Florida

BACKGROUND: The use of mega-vitamin intervention began in the 1950s with the treatment of schizophrenic patients. Pyroxidine (vitamin B6) was first used with children diagnosed with "autism syndrome" when speech and language improvement was observed in some children as a result of large doses of B6. A number of studies attempted to assess the effects of vitamin B6-Magnesium (Mg) was found to reduce undesirable side effects from B6) on characteristics such as verbal communication, non-verbal communication, interpersonal skills, and physiological function, in individuals with autism.

OBJECTIVES: To determine the efficacy of vitamin B6 and magnesium (B6-Mg) for treating social, communication, and behavioural responses of children and adults with autism.

SEARCH STRATEGY: We searched the Cochrane Controlled Trials Register (Cochrane Library, Issue 2, 2002), MEDLINE (1966 to January 2002), EMBASE (1980 to January 2002), PsycINFO (1887 to January 2002), Dissertation Abstracts International (1861 to January 2002). The search engine FirstSearch was also used (January 2002). All searches were updated in April 2005. Reference lists for all the obtained studies and other review articles were examined for additional studies.

SELECTION CRITERIA: All studies in which the participants had been diagnosed with autistic spectrum disorder were randomly allocated prior to intervention and in which outcomes were compared to either a placebo or non-treated group were included.

DATA COLLECTION AND ANALYSIS: Two reviewers independently evaluated and extracted data from all potential studies identified for inclusion.

MAIN RESULTS: This update includes a new trial (Kuriyama 2002) to bring the total of included studies to three (total n=33). One study, which used a cross-over design (Tolbert 1993) provided insufficient data to conduct an analysis. Another crossover study (Findling 1997) yielded no significant differences between treatment and placebo group performances following the B6 intervention on measures of social interaction, communication, compulsivity, impulsivity, or hyperactivity. The latest study (Kuriyama 2002) was motivated by evidence from epilepsy research and was focussed on a subgroup of children with pervasive developmental disorders (PDDs) who exhibited clinical features similar to those with pyroxidine-dependent epilepsy. This small study (n=8) only measured IQ and 'Social Quotient' and found a statistically significant benefit for IQ (5.2, 95% CI = [0.2 to 10.3]) when in the treated group, by using change scores.

AUTHORS' CONCLUSIONS: Due to the small number of studies, the methodological quality of studies, and small sample sizes, no recommendation can be advanced regarding the use of B6-Mg as a treatment for autism.

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