

6 September 2007 - The Lancet - Food Additives Increase Levels Of Hyperactivity In Children In The General Population

FAB RESEARCH COMMENT:

Results from this new randomised controlled trial - supported by the UK Food Standards Agency - provide further evidence that certain artificial food colourings and other additives can contribute to disruptive behaviour in children. Previous research has already shown adverse effects of such additives in

children with hyperactivity and related behavioural problems

3 year old children from a general population sample

This new trial confirms the earlier findings in 3 year olds and extends these to older children (aged 8-9 years) from the general population. As the authors conclude, 'the implications of these results for the regulation of food and additive use could be substantial'

See McCann et al (2007) - The Lancet

Artificial food colour and additives (AFCA) commonly found in children's food exacerbate hyperactive behaviours in children at least up to middle childhood, according to an online article published today (Thursday, September 6, 2007) by The Lancet Importantly, these adverse effects are reported in children in the general population and across a wide range of severities of hyperactivity, and not just in those with extreme hyperactivity (ADHD) as established in previous studies.

Evidence from a previous study* suggests increased levels of hyperactivity, measured by parental ratings for 3-year-old children on a specific mix of food additives. However, whether these effects can be seen with a wider range of measures of hyperactivity and in older children is unknown.

The question is important because of the possible benefit a reduction in the level of hyperactivity in the general population, by removal of AFCA from children's diets, would create. Increased levels of hyperactivity are associated with the development of educational difficulties, especially in relation to reading, therefore adverse effects could affect a child's ability to benefit from schooling.

Jim Stevenson (University of Southampton, Southampton, UK) and colleagues examined the effects of additives in children's behaviour in a community-based, double-blinded, placebo-controlled, crossover trial funded by the Food Standards Agency. 153 3-year-old and 144 8/9-year-old children were included in the study.

The challenge drinks contained sodium benzoate and one of two AFCA mixes or a placebo drink. Mix A was similar to the active challenge used in the previous study* and mix B contained the current average daily consumption of food additives by 3-year-old and 8/9-year-old children in the UK. Behaviours were measured by a global hyperactivity aggregate (GHA) based on ratings by teachers and parents, plus a computerised test for attention of the 8/9-year-old children.

The investigators reported that mix A had a significantly adverse effect compared with placebo in GHA for all 3-year-old children, but effects for mix B did not because there was greater variability in the response to the active challenges than placebo in this group. 8/9-year-old children showed a significantly adverse effect when given mix A or mix B when analysis was restricted to those children consuming more than 85% of drinks with no missing data.

According to the investigators substantial individual differences were recorded in the response of children to the additives. The authors conclude: "Although the use of artificial colouring in food manufacture might seem to be superfluous, the same cannot be said for sodium benzoate, which has an important preservative function. The implications of these results for the regulation of food additive use could be substantial". * [Bateman B, Warner JO, Hutchinson E et al. The Effects of a double blind, placebo-controlled, artificial food colourings and benzoate preservative challenge on hyperactivity in a general population sample of preschool children. Arch Dis childhood 2004; 89: 506-11](#)