

Food additives again linked to hyperactivity

Even modest ingestion of food additives can cause behavior problems in young children, according to a new large-scale study of three-year-old children.

John Warner and colleagues evaluated nearly 2,000 preschool children for symptoms of allergies or attention deficit hyperactivity disorder (ADHD). The researchers then divided 277 of the children into four groups: children with both allergies and hyperactivity, those with neither condition, those with only hyperactivity, and those with only allergies.

At the beginning of the study, all of the children were placed on a diet free of artificial additives. Over the next three weeks, the children were randomly assigned to receive a placebo or a daily drink containing colorings and preservatives, with each child participating in both an additive challenge and a placebo phase. Behavior changes were rated by parents and clinicians blind to whether the children were ingesting additives or the placebo.

The researchers report, "The observed effect of food additives and colorings on hyperactivity in this community sample is substantial, at least for parent ratings." Clinicians did not report significant changes, but the researchers say that parental observations were more likely to be accurate because parents observed the children over a longer period of time, and saw their reactions in a variety of settings.

Warner says that the amounts of additives given to the children were "on the low side of normal." He also notes that exposure to the additives caused hyperactive behaviors not just in children with existing ADHD or allergies, but also in children with neither condition. "We were surprised by the results," he says, "because the effect was not just in one group. We showed there was an effect on perfectly normal children. If that is confirmed by further research, then there is a public health issue."

"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," B. Bateman, J. O. Warner, E. Hutchinson, T. Dean, P. Rowlandson, C. Gant, J. Grundy, C. Fitzgerald, and J. Stevenson, *Archives of Disease in Childhood*, Vol. 89, June 2004, 506-11. Address: John Warner, University Child Health, Southampton General Hospital, Tremona Road, Southampton SO16 6YD, UK, jow@soton.ac.uk.

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"Artificial colorings and preservatives in food and drink boost levels of hyperactivity in pre-school children," *The Independent* (UK), May 25, 2004.

HAPI: "Mercury-free" vaccines still contain mercury

Vaccines marketed as "mercury free" still contain the toxic metal, according to an investigation by Health Advocacy in the Public Interest (HAPI).

Earlier this year, HAPI arranged to have four vials of vaccine tested by Doctor's Data, an independent laboratory specializing in heavy metal testing. The manufacturers of two of the vials claimed that they contained only traces of mercury, while the other two vials were claimed to be completely mercury-free.

"All four vaccine vials tested contained mercury," HAPI reports. They add, "All four vials also contained aluminum, one nine times more than the other three, which tremendously enhances the toxicity of mercury, causing neuronal death in the brain."

Noting that many manufacturers voluntarily agreed to begin producing "mercury-free" vaccines in 1999, HAPI officials have

called on the Food and Drug Administration to take action against "blatant mislabeling and misrepresentation of ingredients" in FDA-licensed vaccines.

HAPI officials say their investigation revealed that thimerosal, a preservative that is approximately 50 percent mercury, is still being used to produce most vaccines, and is simply filtered out afterward. The group cites Boyd Haley, a vaccine expert, who notes that mercury binds to the antigenic protein in vaccines and cannot be completely removed.

"Clearly, more testing is needed," HAPI officials say. "The FDA has the ability and authority to take on the necessary testing; however, at present, this task sadly appears to be up to the public."

"Vaccines are not mercury free," news release, Health Advocacy in the Public Interest, August 2004.

Poor brain networking may explain autistic symptoms

Autism may stem from underconnectivity of brain areas, according to a recent functional magnetic resonance imaging (fMRI) study.

Marcel Just and colleagues compared 17 autistic individuals with normal IQs to 17 control subjects, while both groups performed a reading comprehension task. The researchers found that while a similar network in the brain carried out these tasks in both groups, this network was less synchronized in the autistic group. In addition, an integrating center in the network, Broca's area, was significantly less active. Conversely, Wernicke's area, which is responsible for processing individual words, was more active in autistic participants.

The researchers say their findings suggest that "autism entails preservation and possibly enhancement of the function of individual cortical centers, but at the same time entails poorer integration of information at higher levels of processing that require more coordination among cortical centers." This could explain, they say, why autistic individuals can master detail, and even display savant skills, while they have difficulty handling activities such as social interaction that require the rapid and efficient integration of a network of different brain regions.

Just et al. add that they have detected similar evidence of underconnectivity when testing their subjects using a non-verbal task. "Thus," they say, "the functional connectivity finding is unlikely to be specific to language tasks but rather a general phenomenon of those neural systems affected in autism."

"Cortical activation and synchronization during sentence comprehension in high-functioning autism: evidence of underconnectivity," Marcel Adam Just, Vladimir L. Cherkassky,

Timothy A. Keller, and Nancy J. Minshew, *Brain*, Vol. 127, No. 8, August 2004, 1811-21. Address: Marcel Adam Just, Carnegie Mellon University, Center for Cognitive Brain Imaging, Department of Psychology, Pittsburgh, PA 15213, just@cmu.edu.

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"Carnegie Mellon and University of Pittsburgh scientists discover biological basis for autism," news release, Carnegie Mellon University, July 30, 2004.

FDA agrees to "black box" antidepressant warning

After initially attempting to suppress findings by its own researchers, the Food and Drug Administration acknowledged in September that antidepressant drugs significantly increase the risk of suicidal thoughts and acts in pediatric patients. The FDA is now calling on manufacturers of these drugs to include a black-box warning—the strongest action that can be taken, short of banning a drug—on all antidepressants. These warnings may also include the information that antidepressants have not been found to be effective in treating pediatric patients.

Earlier this year, the Food and Drug Administration refused to release the findings of one of its own researchers, Andrew Mosholder, who reported that children taking Paxil (paroxetine) were nearly twice as likely to commit suicide as children receiving a placebo. In addition to canceling Mosholder's presentation at an FDA panel reviewing the risks of pediatric antidepressant use, the FDA ordered a new analysis—which has now validated Mosholder's concerns.

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