Consensus on Diets and Hyperactivity

A panel of experts says that additive-free diets are not effective for most hyperactive children

On 13 to 15 January, a consensus development conference was held at the National Institutes of Health on "Defined Diets and Hyperactivity"—an emotionally charged topic if ever there was one. A vocal contingent of physicians and families of hyperactive children contend that "defined diets," which are free of artificial colors, flavors, and preservatives, are an effective treatment for childhood hyperactivity. An equally vocal contingent of medical researchers assert that the diets' effects, if there are any, should be ascribed to faith healing.

Walking a tightrope between seeming to endorse the defined diets and condemning them outright as unproved in controlled studies, the consensus panel concluded that parents and physicians who believe in the diets may want to give them a try. But the panel made it clear that there is no firm evidence that the diets work. Claims that the diets produce dramatic effects simply did not hold up in well-designed clinical trials. Nonetheless, the panel did not want to dismiss out of hand the anecdotal evidence and testimonials that the diets work.

Childhood hyperactivity is an often loosely defined condition whose prevalence, long-term consequences, and rate of spontaneous remission are unknown. Estimates of the prevalence of the disorder range from 1 to 20 percent, for example. Three times as many boys as girls are hyperactive. The panel recommended using the Diagnostic and Statistical Manual III of the American Psychiatric Association to define hyperactivity. According to this manual, the disorder is characterized by "signs of developmentally inappropriate inattention, impulsivity, and hyperactivity."

The idea that hyperactive children might be helped if they go on defined diets was first suggested 15 years ago by Ben Feingold, an allergist at the Kaiser-Permanente Medical Center in San Francisco. He wrote a popular book, *Why Your Child is Hyperactive*, and became the leader of a popular movement to get hyperactive children off drugs and on special diets. (The most common treatment for hyperactivity is amphetamines, which seem to slow the children down and allow them to learn in school and get along in social situations.) According to June Hersey, who is president of the Feingold Association of the United States, the association has 20,000 member families; 200,000 children in this country are on defined diets to control hyperactivity.

Researchers and physicians have been asking whether there is any evidence, other than testimonials from families of hyperactive children, that the diets work or whether there are any credible theories to explain why food additives might affect children's behavior. The audience at the conference reflected these concerns. It included an allergist from Wisconsin, a pediatric ophthalmologist from Chevy Chase, Maryland, and a psychologist from Baltimore, for example, all of whom were there to learn what to tell the parents of their hyperactive patients.

As the audience learned, however, there seems to be nothing definite to say. When researchers tried to test Feingold's hypothesis with controlled clinical trials, none found anything like the 50 percent response rate that Feingold claims. The best that could be said is that there may be a small subset of hyperactive children who benefit from defined diets. As panel chairman Floyd Denney of the University of North Carolina School of Medicine remarked, "Unfortunately, we have not heard that there are any ways of identifying ahead of time these children who respond."

Typical of the results presented were those of J. Ivan Williams of the University of Toronto. He studied 26 hyperactive children, aged 6 to 12, all of whom were taking amphetamines. Williams took the children off the drugs and put them on diets free of artificial flavors and colors. He then kept them on the diet and tested them in a double-blind study with amphetamines, placebos, and food additives. Williams found that all but seven of the children responded to amphetamines in a "marked and consistent way." A group of three to seven of the younger children appeared to respond to the diet, but the effects were apparent only when their behavior was looked at as a group. "This was a group effect, not an individual effect. There were no clear and consistent effects specific to individuals," Williams says.

The panel also heard testimonials from parents of hyperactive children and from the children themselves. For example, Susan Lawson of Fairfax, Virginia, told about her son David whose behavior improved markedly once he went on an additive-free diet and who becomes hyperactive, she says, every time he breaks the diet. "A part of a slice of a box cake produced a 72-hour marathon, with David sleeping only in snatches for the whole time. A spoonful of Jell-O at a relative's house had him up all night again and rambunctious during the day."

If there is a small group of hyperactive children who respond to defined diets, it may be that artificial flavorings and colors have some specific biochemical effects on their brains. But, so far, no one doing animal studies has demonstrated any evidence for such effects. For a while it looked as though Red Dye 3 (erythrosine) might cause hyperactivity by inhibiting neurotransmitter uptake. But, as Richard Mailman of the University of North Carolina argued, the dye only affects neurotransmitters when it is present in vitro in enormous quantities. It apparently disrupts the membrane lipids in a nonspecific way so that every membrane function is affected. Mailman reported that in order to show effects of Red Dye 3 on behavior, he had to give rats nearly lethal amounts of dye, so much that they literally turned pink.

When, after hearing the results of research on defined diets and hyperactivity, the panel recommended that it wouldn't hurt to try the diets if parents believe in them, the audience had mixed reactions. Feingold applauded the consensus statement. Feingold Association president Hersey said she was "a little disappointed that the panel suggested trying other modalities. We would prefer that physicians first consider the diet before they resort to drugs." Mailman, on the other hand, thought the panel was too much in favor of the diets. "Let's acknowledge the fact that there is no scientific evidence that diets can help the vast majority of people. However reprehensible giving drugs to children might seem, the stimulant drugs work in many children," he said.—GINA KOLATA

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