

CS04-04 - AVOIDING SPECIFIC FOODS MAY REDUCE ADHD: SHOULD WE CHANGE OUR PRESCRIPTIONS?

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The effects of a restricted elimination diet (RED) on Attention Deficit Hyperactivity Disorder (ADHD) have been investigated in eight randomised controlled studies, five of which used a double-blind placebo controlled (DBPC) design (see table 1). The first and the eighth RED trial (the Impact of Nutrition on Children with ADHD (INCA) study), have been published in *The Lancet*.

The RED studies provide convincing evidence for a statistically significant and clinically relevant effect of an RED on ADHD and on comorbid ODD, with an overall effect size on ADHD of 1.2 (see table 2). The INCA study has shown that sixty percent of a heterogeneous group of children with ADHD and ODD do not meet the ADHD and ODD criteria anymore following the RED, showing normal behaviour according to parents', teacher's and blinded paediatrician's measurements (see figure 1 and figure 2).

The results of the DBPC RED studies indicate that the beneficial effects of an RED on the behaviour of children with ADHD are not moderated by parental expectations. In addition, a recent randomised controlled pilot study investigating the effects of an RED on family structure and environment has shown that an RED does not seem to affect family structure or family environment in families motivated to enter RED research. It may be obvious that a restricted diet, commensurable to behavioural therapy, is very difficult to blind. Consequently, in order to conceal the treatment conditions in the DBPC studies, some dietary sacrifices had to be made to secure the blinding, obviously resulting in lower effect sizes than in open studies using an optimally restricted diet (see table 2).

Considering that 1) the long-term effects of medication, the current therapy of ADHD, are disappointing; 2) 50% of children discontinue their medication within a two-year period; and 3) children with comorbid ODD have a worse prognosis, interventions that may prevent ADHD and ODD have great clinical potential.

Children with ADHD responding favourably to a 5-week RED may be diagnosed Food-Induced ADHD (FI-ADHD); in these children ADHD may be considered a hypersensitivity disorder triggered by food (see figure 3). Children diagnosed FI-ADHD are advised to enter an RED challenge period to identify the incriminated foods, eventually resulting in a diet as elaborate as possible. Children with ADHD not responding favourably to an RED may be diagnosed Classic ADHD (C-ADHD) and may start treatment as usual.

Further investigation is necessary to define the mechanism of food in children with FI-ADHD and the long-term effects of an RED. Taking the impressive results of all RED studies into account, a paradigm shift concerning diagnosis and treatment of ADHD is needed, and implementation of RED research in children with parents motivated to follow a 5 week RED is warranted.