Food Intolerance Network

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Draft Guidelines on Attention Deficit Hyperactivity Disorder (ADHD) 2008

The Food Intolerance Network, now consisting of over 6,000 families who routinely use diet to manage ADHD and related behavioural symptoms, provides the following submission on the RACP's draft guidelines on ADHD.

It does seem astonishing that in the same year when

- a British Medical Journal editorial concludes that a properly supervised and evaluated trial period of eliminating food additives should be considered as part of the standard treatment for ADHD (Kemp, 2008), and
- an editor of the American Academy of Paediatrics journal concludes that "the overall findings of the study are clear and require that even we skeptics, who have long doubted parental claims of the effects of various foods on the behavior of their children, admit we might have been wrong" (Schonwald, 2008)

the Royal Australian College of Physicians should be about to recommend exactly the opposite.

We believe that this is due to selective and limited reading of the scientific evidence as set out below.

As required, we present our arguments based on the RACP draft for public consultation. Square brackets show papers the RACP has quoted; round brackets those apparently not considered. References are appended.

Page 154 Evidence Statement "There have been no well designed RCTs on this issue."

FIN submits that it is ingenuous to insist on RCTs for comprehensive elimination diets.

RCTs (Randomised Controlled Trials) are the most rigorous way of determining whether a cause-effect relation exists between treatment and outcome but they are not the only kind of trial that can indicate the effectiveness of dietary intervention. As Grossman and Mackenzie (2005) commented: 'because every study design may have problems in particular applications, studies should be evaluated by appropriate criteria, and not primarily according to the simplistic RCT/non-RCT dichotomy promoted by some prominent advocates of the evidence-based medicine movement'.

Of the comprehensive diet studies shown in Table 1 below, four are RCTs (Pelsser et al, 2008; Schmidt et al, [670]; Harley et al, [673]; and Kaplan et al, 1989); three are open trials (Bennett et al, 1998; Breakey et al, 1991; Pelsser et al, 2002) and the remaining six are open trials preceding DBPC challenges. More comprehensive diets are generally more successful. Regarding the difficulty of constructing placebo diets, Kaplan et al observed: 'perhaps exclusion of … other items would have resulted in even greater changes in behaviour but it would have been more difficult to conceal the treatment conditions'. To ignore previous trials because they don't meet newly imposed standards is ingenuous and medication-biased, given that diet studies are much more time-consuming and difficult to administer than those using medication.

Page 154 Evidence Statements on five trials (3 dot points)

FIN submits that additive-free diets alone are not sufficient for ADHD children.

Although ADHD children can improve on additive-free diets, better results are gained through the use of more comprehensive diets. In a study of 76 children, although artificial colours and preservatives were the most common provoking substances, no child was affected by additives alone (Egger et al, 1985).

Therefore Question 28 (page 208 of the Draft Guidelines), "For individuals with ADHD, do diet restrictions (artificial colours, artificial flavours and preservatives) compared with no intervention or standard care, affect outcomes" is the wrong question, which has lead to a wrong and simplistic recommendation.

The correct question is "For individuals with ADHD, do comprehensive diet restrictions compared with no intervention or standard care, affect outcomes?" and this question is answered positively below:

FIN's view is that diet helps the majority of children with ADHD, if the right diet is used.

Of 13 comprehensive diet trials, nine open trials and four RCT trials have shown comprehensive elimination diets to benefit the majority of ADHD children, see Table 1.

TABLE 1 A comparison of comprehensive elimination diets and their effects on behaviour.

Study	Diet	No of subjects	Percentage improving
Dengate and Ruben (2002)	RPAH	27	100%
Bennett et al (1998)	Few Foods	9	100%
Egger et al. (1985)	Few Foods	76	82%
Breakey et al. (1991)	LALS	516	80%
Carter et al. (1993)	Few Foods	78	76%
Boris and Mandel (1994)	Other	26	73%
Uhlig et al. (1997)	Few Foods	45	71%
Pelsser et al. (2008) RCT	Few Foods	27	70%
Pelsser and Buitelaar (2002)	Few Foods	40	62%
Swain et al (1985)	RPAH	140	61%
Kaplan et al (1989) RCT	Other	24	58%
Harley et al (1978) RCT [673]	Feingold	46	50%
Schmidt et al. (1997) RCT [670]	Few Foods	49	24%

Comprehensive elimination diets are usually either the Few Foods diet or low salicylate diets based on the Feingold hypothesis (Feingold, 1977). While the Few Foods diet can achieve good results, it is not considered to be practical by parent groups because it is too difficult to follow. As can be seen in the studies by Breakey et al (1997) and Swain et al (1985), low salicylate diets can be used with large numbers of children. Salicylates have been shown to affect hyperactive children in a DBPC challenge (Fitzsimon et al, 1978). There are numerous dietitians Australia-wide who can supervise the RPAH simplified elimination diet which is available from the RPAH Allergy Unit.

- **The Few Foods (oligoantigenic) diet** consists of limited foods such as rice, lettuce, turkey, pears and multivitamins although this can vary depending on the researcher. In some cases, high salicylate foods such as broccoli are included. This diet can be less effective for salicylate-sensitive children as it does not specifically exclude salicylates. It is also impractical for large numbers of children.

- **The original Feingold diet** avoided any food item containing artificial food colours, flavours and salicylates. Studies of the Feingold diet obtained mixed results and subsequent analyses showed that the Feingold diet was not as low in salicylates as originally thought (Swain et al, 1985).

- **The LALS diet** was low in additives and salicylates. It used a more comprehensive range of salicylate analyses than Feingold, as well as some amine containing foods such as chocolate, and dairy foods when required (Breakey et al, 1997).

- **The Royal Prince Alfred Hospital elimination diet (RPAH)** avoids over 50 additives and a comprehensive range of salicylate and amine containing foods as well as dairy foods and gluten if symptoms are severe. It is frequently updated as foods change and new additives are introduced. (Swain et al, 1985, Clarke et al, 1996).

- **Others:** Boris and Mandel (1994) used a multiple item elimination diet which excluded additives, dairy foods, wheat and other foods as necessary. The diet used by Kaplan et al (1989) excluded additives, chocolate, caffeine and any foods considered suspect by the family and was not as effective as the more comprehensive diets above.

Some diets are more effective than others

Elimination diets vary in their effectiveness. The oligoantigenic diet has been shown to be as effective as methylphenidate for some children, with 24% of 36 children with both conduct disorder and ADHD responding to diet compared to 44% responding to medication [Schmidt, 670]. In a trial of the RPAH diet, all 27 children improved significantly and some children's scores improved from the worst to the best behaviour rating category (Figure 1, Dengate and Ruben, 2002).

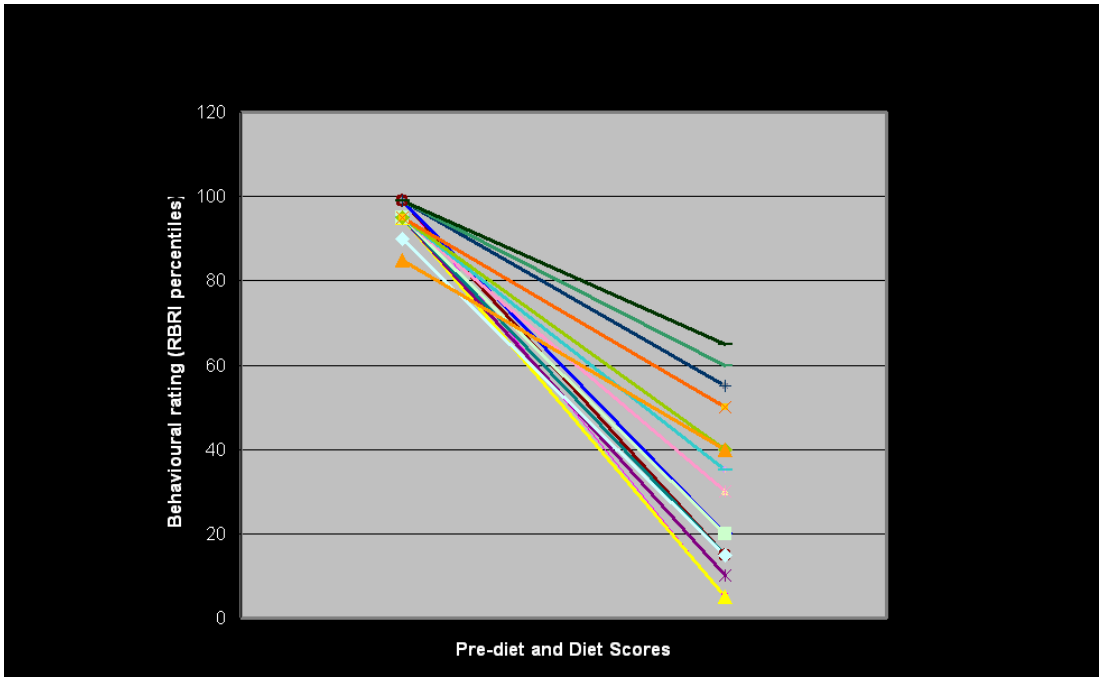

FIGURE 1 Behavioural changes pre-RPAH diet and post-RPAH diet for 27 children, derived from Dengate and Ruben, 2002.

Less comprehensive diets are less effective. On Kaplan et al's (1989) essentially additive-free diet, in which 42% of children were classed as responders and 16% were mild responders, researchers commented 'it is safe to say that not a single parent believed that participation in this study had transformed their child into an easy to manage person'.

Diet seems to affect irritability more than hyperactivity

A number of researchers have commented that diets seem to result more in improvements in irritability rather than hyperactivity (Egger et al, 1985; Rowe and Rowe [90]; Breakey et al, 1991). Parents reported that their children were 'more manageable and more amenable to reasoning' (Carter et al, 1993). A German trial of the oligoantigenic diet with 21 children found significant improvements according to questionnaires and interviews but not on attention tests and actometers. Researchers commented 'it may be that the oligoantigenic diet influences only certain dimensions of hyperactivity' (Schulte-Korne et al, 1996).

> **Page 154 Recommendations: "Elimination and restriction diets may be of limited or no benefit in treating ADHD".**

FIN submits that there is no evidence for this conclusion based on a reasonable examination of the evidence, particularly that in Table 1.

Finally, FIN submits that current evidence is sufficiently compelling to stop listing diet under "Complementary and Alternative Treatments for ADHD" (page 153) and to list comprehensive diets as "Best practice" with the Recommendation "that a comprehensive diet (along with behavioural therapy) should be offered as the first course of treatment for children with ADHD before trialling medication. If parents are agreeable, children should be referred to an experienced dietitian for a three week trial of the Royal Prince Alfred Hospital Elimination Diet."

As diet is more difficult to follow than medication, parents using diet need support (Carter et al, 1993; Breakey et al, 1991). It is singularly unhelpful to suggest that diet is of limited or no benefit when the evidence is to the contrary. Refusal to recommend diet generally results in patients seeking advice from 'unorthodox' practitioners (Clarke et al, 1996) rather than using an evidence-based diet.

It is also a concern to the Food Intolerance Network that Australia leads the world in this area, in the work with tens of thousands of children and adults at the Royal Prince Alfred Hospital Allergy Unit, but that the RACP review includes no mention of their excellent work.

We look forward to the final Guidelines reflecting the information which we have presented to you.

Yours truly,

Ms Sue Dengate

Dr Howard Dengate

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