

Submission on the Role of Diet as a Treatment for ADHD

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Summary

In this submission emphasis is given to consideration of diet as a treatment for ADHD.

There is sufficient research to implicate diet in ADHD behaviours in some children. Suspect diet substances 'aggravate the underlying behaviour in susceptible children'. Dietary treatment involving exclusion and challenge should be considered using a qualified Dietitian [APD], with assessment or record of before and after treatment, so benefit is recorded and managed with other treatments available.

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My expertise with regard to Diet and ADHD

- My experience of work in the area of Diet and ADHD is over 30 years.
- Work began in 1975 in Queensland, after Feingold's Hypothesis in the US
- First group closely followed - 75 families – reported in Australian Family Physician 1978.
- I also followed up diet use in self help groups, attending meetings and discussion groups for over 20 years, meeting or hearing from many families allowing collection of data on foods tolerated or not, and of symptoms that change with diet.

- I had the unique experience of being the only dietitian to have been employed specifically to practice seeing if there was any change with diet, and to ensure that nutrition was not jeopardized by diet use. The position was part time over 10 years in twelve clinics.
- Data was collected throughout the first five years in child mental health clinics in **500** families from 1984 to 1989 and reported in Aust J N D in 1991.
- Further patients, around **500**, were seen and followed up from '90 to '94.
- A detailed study for Masters of Applied Science Degree of **112** families was completed at QUT in 1995 with all relevant references provided.
- I also saw patients in Private Practice from 1984 to present – at least 500 with ADHD symptoms.
- My Review article was published in 1997 in *J Paediatr Child Hlth* so covers all research up until the mid 1990s. It includes the most important research references.
- Overall I have followed up over 2000 food sensitive families, and seen many more in clinical practice over the thirty years.
- A position statement on diet management is provided in my book “Are You Food Sensitive?” published in 1998 which will be sent as an addition to this submission.
- I have also provided information on a home page. Note Position Statement on The Role of Diet in ADHD. In the section New Ideas from 2000 to 2006 is information post dating the book and Review article. Note ‘Development of thinking in food chemical intolerance from 1975 to 2005’ as an overview of ideas. See www.ozemail.com.au/~breakey
- I have also outlined diet management for dietitians who want to learn about the area. This will also be sent as an addition to this submission. It was while working with ADHD that I developed the Diet Detective Method, which incorporated the element of scientific investigation.
- My work is complemented by the diet information provided by the RPAH Allergy Unit but is more liberal to suit management in families managing ADHD. See information attached in dietitian’s set - “Diet Detective Approach to the Investigation of Suspected Food Sensitivity, p. 1. Summary levels of strictness for chemical and food sensitivity.”
- I have provided an invited chapter in an international book -
- J Breakey, The Role of Food Additives and Chemicals in Behavioural, Learning, Activity, and Sleep Problems in Children, in *Food Additives*, 2nd Edn, 2000; AL Branen, PM Davidson, S Salminen, JH Thorngate, eds. Marcel Dekker, New York, Basel. It is a published source for the clinical findings in my thesis.
- Grand Round Presentation at RCH, Brisbane, *Present knowledge on diet and behaviour*, 2006.

Treatment of ADHD using diet

Over the last 30 years work on dietary treatment has progressed to a point where useful dietary investigation is now available. This has come with the appreciation that it is the highly flavoured foods that have to be reduced. This includes:

- Artificial flavours – used in 10 times the dose of colours as an additive;
- Salicylates – tomato sauce, herbs and spices, teas, peppermint;
- Amines – chocolate, sauces, marinades, rich and aged foods;
- Mono sodium glutamate – used as a flavour enhancer in food.

This submission is difficult as there is a hope that those who have experience and have done research in the area should be able to make it neat and simple.

Why, despite thirty years of work, is it not simple?

- 1 The hypothesis should not have been selectively reduced to “Do artificial colours and benzoate preservative cause hyperactivity?” There has been a separation of research into those investigating the diet itself and changes, and those researching the reduced hypothesis. Much has been found about the role of food. The list of suspect substances is provided below. There is a need to reduce the “total body load” of suspect substances to below reaction threshold.
- 2 Some ADHD children are food sensitive and others are not.
- 3 Individuals vary in which substances they react to.
- 4 The change is not “all or nothing”, but a shift towards the normal range.
- 5 The symptoms that change are not the same in all diet responders.
- 6 While core ADHD symptoms change, the symptom reported to change most is ‘irritable mood’.
- 7 The double-blind placebo controlled trial has limitations with regard to diet in this area for several reasons.

Summary of the position with regard to diet and ADHD:-

My position is: “Suspect substances aggravate the underlying disorder in susceptible people”.

Has there been sufficient evidence over the last 30 years that diet changes ADHD?

There is sufficient evidence that diet has a role in some ADHD children that it should be considered as part of treatment options. In my Masters research sample over 50% of children had a positive response with around 30% shifting into the normal range. See attached review and thesis for detail.

Who are most likely to respond?

Those who are most likely to respond are those who have noticed a definite connection between diet and behaviour change, those with a family history of allergy, especially where another group of symptoms also occur. These include headaches, migraine, irritable bowel syndrome [IBS], mouth ulcers, and car sickness. Other indicators include a family member who reacts adversely to aspirin, and has a supersensitivity to smells. A Family Sensitivity History sheet is attached.

What exactly is the diet treatment?

The treatment begins with an exclusion diet with two parts:-

- A. Exclusions that should be made in all who are investigating diet, best summarized as follows: additive colour [artificial and natural], additive flavour [artificial and natural], most preservatives, naturally occurring and medicinal salicylates, amines, and natural and additive monosodium glutamate [MSG]. It can be described as a “low chemical diet” or a diet minimizing all highly flavoured foods. Attention should also be given to environmental smells.

- B. Additional exclusions determined in individuals include whole foods to which the child is known or suspected of causing an adverse reaction, commonly including milk, or wheat.

It is emphasized that treatment is an investigation using exclusions, followed by capsule or food challenges showing individual variation in substances tolerated, and in amounts tolerated.

What are the key ideas that need attention re Diet as a treatment for ADHD?

1. Dietary treatment for ADHD is not the addition of a treatment as medication or addition of nutrients would be, with consequence research into the effect.

It is the removal of substances which aggravate symptoms seen in ADHD.

Initial research by many teams in various countries, had a broad focus and is reviewed by this author with the review attached. A historical perspective and clinical research, also by this author, was reported in a thesis on diet in ADHD also attached. The result is that much is now known of the diet therapy likely to be most effective.

2. Rather than research focusing on the diet and what range of substances and foods need to be restricted, it has focused on what deteriorates with the reintroduction of suspect exclusions. Research in the last 10 years has focused on whether some of the suspect substances [particularly artificial colour and one preservative] produce ADHD changes when they are reintroduced after their exclusion, not the exclusion of all suspect substances.

Three important reports of findings

Batman et al 2004

This is important as, despite excluding and challenging with only some of the suspect substances, statistically significant results were obtained.

Schab & Trinh 2004

This meta-analysis selected research on methodology that met statistical criteria and found a positive connection.

McCann et al 2007

This new research published recently was done using a normal population of children, not confined to ADHD children. However the statistically significant changes found with challenge were ADHD behaviours, so it becomes important for this reason.

Overall it can be said in 2007 that there is now sufficient evidence to implicate diet in ADHD behaviours.

This is despite the fact that there are many limitations to much of the research of this complex issue. See attached Review and M App Sc Thesis for discussion. An example that relates to the above articles is that the exclusion diets often did not exclude chocolate or tomato sauce which cause reactions in over half of the diet responders and could confound results.

What to do in Australia at this time

One other important issue to be addressed is what to do in Australia at this time. For thirty years families have been trialing and using exclusion diets obtained from

various sources. Their doctors give varying advice rarely considering diet as a treatment worthy of note.

I recommend that this change so that doctors consider diet as a treatment option. They can do assessments of the child's problems, investigate the role of diet and use it with other treatments, as necessary.

References

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 Child* 2004; **89**: 506-11.

Schab DW, Trinh NHT. Do artificial colors promote hyperactivity in children with hyperactive syndromes? A meta-analysis of double-blind placebo-controlled trials. *J of Dev and Behav Paediatr.* 2004; 6:423-434.

McCann D, Barrett A, Cooper A, Crumpler D, Dalen L, Grimshaw K, Kitchin E, Lok K, Porteous L, Prince E, Sonuga-Barke E, Warner JO, Stevenson J. Food additives and hyperactive behaviour in 3-year-old and 8/9-year-old children in the community: a randomised, double-blinded, placebo-controlled trial. *The Lancet.* Nov 2007