

Into the mouths of babes: Sue Dengate looks at the effects of food on children's behaviour.

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Into the mouths of babes

The effects of food on children's behaviour

by Sue Dengate

Penny (not her real name) was confused by her three-year-old's behaviour. Although normally calm and agreeable, Isabella sometimes acted up and Penny didn't know why. 'She gets loud and excited, runs around, makes silly noises and won't listen to me', she wrote.

Isabella's most recent outburst happened after she ate a packet of healthy-looking snacks. In the past, Penny blamed sugar, but Isabella hadn't eaten any sugar – and research¹ has shown that sugar is not associated with children's behaviour.

Like most parents, Penny knew that food additives can be linked to children's behaviour (see box 1). At home she served mostly whole foods and she knew to read ingredient labels. The trouble is, Penny thought a product with no apparent artificial ingredients should be safe.

Labelling has changed

Food labelling has changed since the publication of a University of Southampton study² showing that normal, healthy children can be affected by food additives. From July this year, products with artificial colours in the EU must carry a warning label 'may have an adverse effect on activity and attention in children'. The warning won't be used in Australia but many manufacturers have realised that parents would prefer to avoid harmful additives.

In an attempt to make their products seem additive-free, some manufacturers have resorted to tricks. One that works well is to use names such as sunset yellow and sodium benzoate instead of numbers such as 110 and 211.

Another trick is an additive-free claim on the front of the packet. Many parents look no further than a 'no artificial colours or flavours' sticker, forgetting that a product with this label can still contain preservatives or flavour enhancers.

Most parents know to avoid MSG (flavour enhancer 621) but may be unaware of the newer flavour enhancers (627, 631, 635) that have been designed to boost the effect of MSG up to 15 times.

As well, products with an 'All natural, No MSG' claim on the label may contain some form of MSG - known as free glutamates - such as yeast extract, hydrolysed vegetable protein, autolyzed yeast or even just 'flavour'. In 1996, a proposal in the USA that would have required all forms of free glutamate to be identified on packet labels was withdrawn due to industry pressure. Although a 'no MSG' claim on foods with free glutamates is considered misleading overseas, you'll see it on labels here.

'Natural' can be a problem too

Few parents are aware that naturally occurring chemicals in healthy foods can cause a problem for some children too, especially if eaten every day or in large doses.

Foods high in natural food chemicals called salicylates include most fruit - especially citrus, berries, dried fruits and fruit juices; some vegetables such as broccoli and tomato-based sauces; herbs and spices especially rosemary or herb extract used as a preservative; medications such as Nurofen or salicylate based teething gel, and strong fruit flavours in medicinal syrups or vitamin supplements. Foods high in natural chemicals called amines include cheese and chocolate.

Parents rarely realise that their children are affected by additives, salicylates or amines unless they eat a large dose in a short time, for example at Christmas or Easter, or until they reduce their intake. This is because when food chemicals are eaten frequently the effects fluctuate and can build up very slowly.

Cutting down

Some families see improvements by following these hints: switch to preservative-free bread, avoid nasty additives (see box 2), drink water as the main drink, limit fruit to two pieces of fresh fruit a day and avoid fruit-flavoured, tomato-based or strongly flavoured products. Some of the safest items for lunchboxes include home-made additive-free sandwiches (for example, preservative-free bread and preservative-free cream cheese), red or golden delicious apples, plain crackers such as Arnott's Salada biscuits, unflavoured plain sweet biscuits such as Arnott's Arrowroots or Teddy Bears, home-made pear muffins and oat bars or – as a treat - plain unflavoured chips.

One mother wrote: 'I cut back my five year old daughter's intake of fruit to about a quarter of what she normally had. Within days we saw dramatic changes. Her behaviour evened out ... she was more sensible and obliging, less aggressive and defiant - and altogether much more pleasant to live with.'

If cutting down isn't enough, a three week trial of an additive-free diet low in salicylates, amines and glutamates – and sometimes dairy foods and gluten as well - followed by food challenges under the supervision of an experienced dietitian can be the quickest way to identify offending food chemicals. (Ask the Food Intolerance Network for contacts www.fedup.com.au.)

For little Isabella, the culprit turned out to be a strongly flavoured snack sold in health food aisles with a 'no artificial colours, flavours or MSG' front of packet claim. 'We buy those because they are so healthy', said Penny. She was relieved to learn that that Isabella's problem was a reaction to food instead of her daughter's natural temperament - 'I thought she was just like that' - and could be easily changed.

- Sue Dengate is the author of the best-selling *Fed Up* series

[BOX 1] Signs of food intolerance in young children

- * grumpiness, moodiness, oppositional defiance
- * long or frequent tantrums
- * head banging, headaches
- * restlessness, overactivity
- * difficulty settling to sleep, night waking, night terrors
- * grizzly, anxious or unhappy temperament
- * reflux, constipation and/or diarrhoea, 'sneaky poos'
- * asthma, stuffy or runny nose, frequent colds
- * eczema or other itchy rashes

[Box 2] Additives to avoid

COLOURS

102 tartrazine, 104 quinoline, 110 sunset yellow
122 carmoisine, 123 amaranth, 124 ponceau
127 erythrosine, 129 allura red, 132 indigotine
133 brilliant blue, 142 green S, 143 fast green FCF
151 brilliant black, 155 brown HT
160b annatto (natural)

PRESERVATIVES

200-203 sorbates
210-213 benzoates
220-228 sulphites
280-283 propionates

249-252 nitrates, nitrites

SYNTHETIC ANTIOXIDANTS

310-312 gallates

319-320 TBHQ, BHA, BHT

FLAVOUR ENHANCERS

621 MSG

627 disodium inosinate

631 disodium guanylate

635 ribonucleotides

HVP, HPP, hydrolysed/autolyzed

plant/vegetable/wheat/soy protein

yeast, yeast extracts, 'flavour/s'

References

1. Wolraich ML and others, Effects of diets high in sucrose or aspartame on the behavior and cognitive performance of children. *N Engl J Med.* 1994;330(5):301-7.
2. McCann D and others, 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. *Lancet.* 2007;370(9598):1560-7.