



Sugar

A natural part of life - how much a part of breakfast?

Dr M. L. Sheil, M.B.B.S., D.C.H. (London)

Mention sugar to anyone dealing with children, and you will get one of two reactions: “Oh! Why do people fuss so? I think all this talk about sugar is a lot of garbage. And what’s more, all the research shows that sugar does not have any reactive effect – that comes from what is added to the sugar – either from the colours or flavours or the preservatives in most sweets and fizzy drinks, or from the naturally occurring chemicals like salicylates in most fruit drinks and ices.”

“I don’t care what you say, sugar affects my child and it affects me too. All my experience and the research I have read, points to sugar as being a significant factor in behaviour.”

Since the connection between nutrition and behaviour has begun to be unravelled, the pendulum has swung from one side of this debate to the other, and tempers have often been frayed.

On the one hand, books like *Sugar and Your Health* by Dr Wunderlich of Florida, and *The Hypoglycaemic Connexion* by Dr G Samros of Sydney, list the symptoms that can occur when blood sugar levels change too quickly.

On the other hand, articles from our own eminent researchers at RPAH Sydney, dietician Anne Swain and immunologist Dr R Loblay, suggest that sugar itself seldom if ever causes reactions, and that most drops in blood sugar are secondary results of reactions to other offending food or chemicals. Once these reactive substances are removed from the diet, the blood sugar swings disappear.

Indeed, some health workers use the drop in blood sugar after a meal of test food, as an indicator that there is something in that food to which the patient is reacting.

Today it is becoming clearer, as often happens, that both sides of the argument have part of the truth.

Some interesting research has recently showing that young children react differently from adults when they eat large amounts of sugary foods alone. In the young child the researchers found that poor concentration and irritability often occurred, but that the effects were not actually due to the sugar level itself, but were due to INCREASED AMOUNTS OF HORMONES released as a result of the change in blood sugar levels. In particular, the hormone adrenaline was released in large quantities.

This is the hormone that prepares us for flight or fight. When it is increased, we become much more aggressive and anxious, we sweat, our heart beat speeds up, we are unable to sit still or concentrate, we are easily confused, and we cannot remember with ease. All these symptoms are identical to those suffered in 'hypoglycaemia'.

It has been known in the past that adrenaline is put out when the blood sugar *falls*, because one of its functions is to mobilise blood sugar – presumably so the body is ready to fight or flee. But now it has been found that adrenaline levels also rise when blood sugar *rises*.

In a study conducted by Dr W Tamborlane of Yale Medical School and Dr Timothy Jones of Perth, 14 healthy, non hyperactive children were given a sugar dose equivalent to two frosted cup cakes for breakfast and nothing else. That is, the sugar dose was given on an empty stomach. Adrenaline levels rose to 10 times the fasting height, and in the five hours after eating the sugar, nearly all the children complained of feeling weak and shaky. Adults did not show this adrenaline rise, and only one adult had similar symptoms. Further studies are under way.

In his new book *Feeding the Brain*, Dr Keith Connors, PhD, takes this research one interesting step further. He too found a rise in hormones in children, after eating a breakfast high in carbohydrates to which sugar had been added. All the children suffered some drop in concentration after eating this sugary meal. *In the hyperactive children however, the effect on concentration was much worse.* The blood sugar and hormone rises were far greater in the hyperactive than in the normal children.

Mothers of hyperactive children, who have been telling us for years that their children cannot handle large amounts of sugar, can now feel vindicated – **BUT** – the most interesting part of Dr Connor's research, was his finding that this reaction is reversed if the child has protein at the same time as the sugar.

In fact, sugar added to a breakfast relatively, high in protein, increases the child's concentration. This was particularly so for the hyperactive child.

With these findings in mind, added to what we already understand, WHAT CAN WE CONCLUDE ABOUT SUGAR?

Sugar snacks and meals high in sugar can be dynamite for particular children, causing loss of attention, and impulsive and aggressive behaviour.

Can Children Function Without Breakfast?

No!!

The brain uses glucose as its energy source. Children vary in their ability to maintain adequate glucose levels through a fasting period. They cannot function at their best throughout the whole morning without breakfast. When hungry, most children cannot function well at all – nor can most adults! Stoke the boiler if you want hot water.

I have saved several students from expulsion from school, by simply suggesting that their boilers needed some good fuel before school – not just a Mars Bar at the bus stop!

What Do We Give Our Children For Breakfast?

What our country grandmothers have been telling us for years! Freshly squeezed juice or a piece of fruit; first class protein – eggs and bacon (if no reaction to nitrates), or meat, fish, cheese milk on cereal, or milk or cheese with bread, pancakes or other carbohydrate.

N.B. did you know that an egg a day for a growing child is now considered safe from the cholesterol point of view? Researchers at Brandeis University, Boston, suggest that dairy products in too great an abundance are the main villains. Other research has shown that egg in fact contains all the goodies like vitamin B6 and lecithin, which actually help the body to metabolise cholesterol.

What Sort of Cereal Should We Choose For Breakfast?

One that does not contain a high proportion of sugar, and which has not been depleted by the refining process of many of its important nutrients. For a full admission of breakfast cereals see *Choice Magazine – September 1989 edition*, available at most libraries.

Highly recommended, with sugars less than five per cent, were Uncle Toby's Oats, Nabisco Vita Brits and Weeties, plain wrap Wheat Flakes, and Sanitarium Weet Bix.

NOT recommended, with sugars higher than 30 per cent, were Kellogg's Nutrigrain and Cocopops.

The story of refining of flour and sugar and its effects, we will leave until another issue.

Do I Have to Ban Sugar Altogether?

No. Give it with protein – with a meal, or after a meal – not on its own as a snack.

How do I know if my child is one of those who react with poor concentration and behaviour to a high sugar/low protein breakfast? Test them...

For two days in the school week give them a breakfast of bread or crumpets and golden squeezed juice with added sugar.

For two days give them a breakfast of scrambled egg as on toast with butter, and juice or fruit; or toasted cheese and a glass of milk; or porridge or Weet Bix with a good helping of milk.

Ask your child's teacher for a report.