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FUSSY EATING IN TODDLERS AND YOUNG CHILDREN

Many parents struggle to teach their children healthy eating behaviours because food rejection behaviours, such as fussy eating and neophobia, are so common in preschool children.²

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Fussy eating can cause a huge amount of distress and anxiety in families, but in their attempts to increase healthy food intake, parents may use strategies that actually hinder the development of healthy eating habits.³

Many people may have seen the news recently stating that *'fussy eating is all in the genes'*, but this is only one piece of the very complicated puzzle of food behaviour in young children. The news report is based on a twin study¹ from researchers in London and Norway. The study results suggest that there is significant genetic influence on both food fussiness and food neophobia (FN) during early life, but that shared environmental factors (for example, the home environment) influenced the development of food fussiness more so than FN.¹

Fussy eating, also known as picky, faddy or choosy eating, is sometimes seen as being on a spectrum of 'feeding difficulties', where fussy eating is the most common form on one end with severe eating disorders at the other.⁴ However, this is not a universally agreed view and other researchers view fussy eating as having characteristics that are completely distinct from feeding disorders.⁵ Most researchers agree that fussy eating is a normal part of toddler development with a peak occurrence at around two to six years of age.

At present, there is no single widely accepted definition of fussy eating and, therefore, little consensus on the appropriate measure of assessment.⁶ A definition that is favoured by the authors of a recent review⁶ is the following:

"An unwillingness to eat familiar foods or try new foods, severe enough to interfere with daily routines to an extent that it is problematic to the child, parent or child-parent relationship."

Other definitions include:

*'Consumption of an inadequate variety of food through rejection of a substantial number of foods that are familiar, as well as unfamiliar; this may include an element of food neophobia and can be extended to include rejection of specific food textures.'*⁷

*'Limited number of food items in the diet, unwillingness to try new foods, limited intake of vegetables and some other food groups, strong food preferences (likes/dislikes) and special preparation of foods required.'*⁸

These definitions all have a common theme of fussy eating, referring to an inadequate or limited variety of foods through rejection of a significant amount of foods that are both familiar and unfamiliar to a child.

OVERLAP WITH FUSSY EATING

Food neophobia is generally regarded as the reluctance to eat, or the avoidance of, new foods.⁶ The term has been derived from earlier work of Rozin and Vollmecke in the 1980s, described as *'omnivore's dilemma'*.⁹

It is thought that food neophobia was an evolutionarily beneficial survival mechanism to help children avoid ingesting toxic chemicals in their environment. In order to avoid eating potentially poisonous plants, children will naturally reject bitter tasting foods.⁶ However, in the modern world,



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these behaviours can provide a barrier to the acceptance of new foods⁵ and this can result in a limited diet lacking variety, which in turn can lead to concerns about nutrient composition and adequacy of children's diets. Food neophobia is seen in all omnivores and resolves with repeated exposures.⁸

PREVALENCE OF PICKY/FUSSY EATING

Worldwide estimates of the prevalence of picky/fussy eating range widely from 6% to 50% in different studies.⁶ Tharner et al¹¹ reported a prevalence of 5.6% in four-year-olds in the Netherlands, whilst Carruth et al¹² reported a prevalence of 50% in two-year-olds in the USA. The variations in the definition of picky/fussy eating and the differences in methods of assessment used in studies, leads to this wide range of reported prevalence, which can differ even within the same study.⁶

UK prevalence

Avon Longitudinal Study of Parents and Children (ALSPAC) is a longitudinal population-based study investigating environmental and genetic influences on health, behaviour and development of children.¹³ In the ALSPAC study, a single question was used to assess picky/fussy eating and this question was asked at four time

points up to five years (24, 38, 54 and 65 months):
Q: Does your child have definite likes and dislikes as far as food is concerned?

- A: i) No
ii) Yes, quite choosy
iii) Yes, very choosy

The overall prevalence of picky/fussy eating was calculated from the number of cases that reported 'Yes, very choosy' at >2 time points. In the ALSPAC study the prevalence of picky eating at each age was between 9.7% and 14.7%.⁶ There was a clear peak age for picky eating, which was 38 months.

FACTORS INFLUENCING THE DEVELOPMENT OF FUSSY EATING BEHAVIOURS

Early feeding

Some studies have found that fussy eating is associated with reduced duration of breastfeeding and early introduction of complementary foods.^{14,15} However, this is not a consistent finding and some studies have found no difference in neophobia or pickiness scores between children who were breastfed or formula-fed, or a mixture of both.¹⁶ This study also noted that there was no association of weaning age with the scores. From a different perspective, another research group found an association between sucking

patterns at two to four weeks of age and the later development of picky/fussy eating.¹⁷

Food groups

Several studies have identified associations with fussy eating with intakes of particular food groups.⁶

Some researchers have found a strong association between the mother's food likes and dislikes and those foods that her children will try/eat.¹⁸ This illustrates that it is important to encourage parents/carers to set a good example of healthy eating for their children to see and copy.

Another common finding is a decreased intake of fruits and vegetables by picky eaters, when compared to non-picky eaters. In particular, an avoidance of vegetables has been found to be very common in several studies of picky eaters.⁶ Intakes of savoury snacks and confectionery has been reported to be higher in 14-month-old picky eaters,¹⁰ although no difference in energy intake was reported between picky and non-picky eaters, suggesting that the savoury snacks and confectionery items were replacing more healthy food options.¹⁰

Could these differences reflect the early signs of picky/fussy eating, or, indeed, could they contribute to the development of picky/fussy eating at a later age? The debate continues...

Dietary fibre

Constipation has been found to be associated bi-directionally with higher food fussiness at age four years,¹⁰ meaning that a lack of dietary fibre in a child's diet can be both a cause and a result of food fussiness. Most studies looking at dietary fibre intake in children who are fussy eaters, have found a reduced intake of wholegrains and of vegetables.⁶ Most studies also found that both groups of children (those who were fussy eaters and those not) had a fibre intake below the recommended intake.

NUTRIENT INTAKES

Few studies have investigated the effect of picky eating on nutrient intakes,⁶ but the issue of inadequate nutrient intake remains a major concern for parents of fussy eaters.

Most studies have found an overall adequate energy intake in children who are

picky eaters, as well as adequate intakes of protein, carbohydrates and fats, when compared to non-picky eaters. However, a few studies have found slightly lower energy intakes in children who were picky eaters compared to non-picky eaters.^{18,19} Intakes of calcium, zinc, iron, vitamin D and vitamin E have been found to be below recommended nutrient intakes¹⁸ in picky eaters, but another study found that the low micronutrient intakes occurred in both the picky and non-picky eaters.²⁰

WHEN IS FUSSY EATING A CONCERN?

Understandably, parents of fussy eaters are concerned about their children's nutrient intakes. However, there is no clear evidence that nutrient intake differs very much between fussy and non-fussy eaters.⁶ However, it is very important to listen carefully to parents/carers and take their concerns seriously.

In my opinion, these situations should be investigated further:

Poor growth - If a child is falling off the centile charts (dropped by two or more weight centiles), or has not grown in height, a referral to a paediatrician for an assessment would be appropriate.

Extremely limited food intake - If a child will eat less than 10 foods, or if a child is extremely specific about the brands or flavours of foods that they will eat, then you should discuss the child with a paediatrician and consider referral to a multidisciplinary feeding team. This extreme form of fussy eating is seen more often, but not exclusively, in children with Asperger's Syndrome, or autism, or in children who have traits in common within this spectrum of disorders.²¹

Sensory sensitivity - If a parent reports that their child is extremely over-sensitive to sounds, lights, touch and tastes, you may suspect that a child has a sensory processing disorder. In this case you should discuss the child with their paediatrician and consider a referral to a multidisciplinary feeding team consisting of an occupational therapist, speech and language therapist and a dietitian.

HELPFUL TIPS TO OFFER PARENTS/CARERS

Here are some of my top tips to help parents/carers manage fussy eaters:

TOP TIP 1: Develop a routine for mealtimes and snacks

Make sure you offer meals and snacks at the same time each day (more or less) so that your child knows what to expect. This also ensures that your child does not become over hungry or too tired to eat. Offer three meals and two to three 'well-timed' snacks per day - not too close to mealtimes. Try not to allow your child to graze on food all day, but offer plenty of opportunities for access to nutritious foods.

TOP TIP 2: Try to recognise signals for when your child has had enough to eat

You decide WHAT your child eats and let them decide HOW MUCH they eat. Your child is telling you that they have had enough when they do the following:

Say no!

Keep their mouth shut

Turn their head away

Push away a spoon or fork

Hold food in their mouth

Spit food out

Gag or retch

TOP TIP 3: Check fluid intake from milk and other drinks

If a child is full up on juice or milk, they will not have an appetite for their food. Use a drinking cup for water/diluted juice/milk and try to phase out feeding bottles by about 12 months of age, as this will automatically decrease the amount of milk that your child drinks. Also, do not offer large amounts of juice/milk just before a meal, as this will fill up small tummies!

Between the ages of one and three years, a child needs a maximum of 350ml of milk per day (less if taking other dairy products like yoghurt and cheese), to meet their calcium requirements.

TOP TIP 4: Encourage self-feeding and offer small portions

From about seven to eight months of age, your baby will want to hold food and attempt to feed themselves. This can be a messy phase, but try to put up with the mess, as your baby needs to learn this process! Offer finger foods at each meal and allow your toddler to hold the spoon or fork themselves, even if most of the food does not make it to their mouths...they will get the hang of it eventually! Try to offer small portions so that your child is not overwhelmed by the amount of food in front of them.

TOP TIP 5: Try to eat together as a family as often as possible

These days, with everybody's very busy and hectic lifestyles, families often don't eat together anymore. Try to make this a priority to eat together as often as you can - even if it is only on weekends.

Also try to get your child eating together with other children, as some children eat better when with others. Remember...children learn by copying others!

TOP TIP 6: Involve children in food preparation

Children love to be involved with food preparation - get creative and start cooking with your children. Allow them to choose a recipe (with your guidance!) and choose the ingredients together. Children can help with measuring/weighing foods, cleaning/chopping up vegetables (watch the sharp knives) and stirring foods together. Research shows that children are more likely to try foods that they have helped to prepare.

TOP TIP 7: Check for medical causes

Constipation and iron deficiency anaemia can decrease a child's appetite. Previous negative/unpleasant experiences around food and eating, such as pain, vomiting or gastro-oesophageal reflux can also affect a child's eating behaviour. If you suspect your child may have one of these conditions, speak to your GP or Health Visitor.