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AUTISM: CAUSES AND IMPLICATIONS OF EXCESSIVE FOOD SELECTIVITY

Autism spectrum disorder (ASD) comprises a set of related developmental disorders, which have implications in several areas of a person's life, such as communication, social interaction and very strict daily routines. Autism is a lifelong developmental condition that can have a profound effect on how autistic people interact with others and how they view the world. This article looks at how food selectivity can impact on the lives of this patient group.

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If you are autistic there is no cure, but, with the right support, you can lead a very fulfilling and rewarding life, learning and developing in much the same way as a neuro-typical person. Being autistic, to an autistic person, can be a huge part of their identity. They know they are 'different', they just don't know why, and everyday things like school, family, work and social life can be much more difficult and full of anxiety. Nevertheless, they would not want to have their autism 'cured'.

It is now thought that roughly one in 150 children are autistic and it is thought to cause severe difficulties in, not only the health and education of the child, but also in their eating habits.¹

Being the parent of an autistic child can be very difficult for many reasons. Some people just think that their child is naughty; they tend to be very socially awkward with very few friends; changes to their routine can have major implications to everyone around them and meals out, or even at home, can be a constant battle.

RESTRICTIVE AND RITUALISTIC EATING HABITS

Studies amongst autistic and non-autistic people have looked at food selectivity and nutritional adequacy amongst these groups of people. It was found that autistic children refused 41.7% of the foods offered to them, whilst only 18.9% of foods were refused by non-autistic children. The autistic children

were also found to choose a more limited range of foods. Compared to non-autistic children.² As well as being selective with their food, behavioural issues, such as choking and aggression associated with food refusal, have been shown to put the child, and whoever is feeding them, at risk of harm.³

With regards to eating habits, autistic children can be seen to not only have restrictive eating habits, but also ritualistic ones too. Some children have such a restricted diet that it leads to nutritional deficiencies, leading to weight loss, malnutrition and even inadequate growth. Some feeding issues can be so severe that they qualify as a disorder. For instance, an autistic child may only eat a very particular brand of pasta sauce, and if a parent gives them an alternative, the child may respond with a severe tantrum, known as a meltdown.

The 'five-a-day' for an autistic child can literally mean eating the same thing, but five times a day, or even only eating five things or less. This selectivity of food could be due to only eating particular colours of food, or specific textures of food. Some autistic children will not touch food, such as peas, if they are touching carrots. They won't eat food that has cooled slightly, or if there is a mixture of textures, for example butter on bread. Even more difficult is the instances where an autistic child will only eat yellow, crunchy food like crackers, waffles and toast.

What is interesting is that in the age group 2-5 years, more autistic children were obese and 5-11 years, more autistic children were underweight.



How parents deal with the food selectivity issue can bring about a great deal of change to the child's behaviour or it can exacerbate the situation.

It has been shown that the foods autistic children like tend to be full of carbohydrates and not much fibre, which can lead to other complications.^{4,5} Several nutrients have been identified as those that are least likely to be eaten by autistic children due to the types of food they often refuse to eat. These nutrients are found to include vitamins A and E, calcium and fibre.⁶ Protein^{7,8} and vitamins B12 and D, have also been noted as being deficient in autistic children.⁸

RESEARCH OUTCOMES

Due to this very selective diet that autistic children have, studies have been carried out to assess whether this leads to an increase in gastrointestinal symptoms compared to a control, non-autistic population. One particular study looked at the incidences of different symptoms such as constipation, diarrhoea, abdominal bloating, discomfort or irritability, gastroesophageal reflux or vomiting and feeding issues or selectivity in people aged under 21. The study noted significant differences in the incidence of constipation (33.9% in autistic children compared to 17.6%) and feeding issues/food selectivity (24.5% in autistic children compared to 16.1%). Constipation and feeding issues/food selectivity often have behavioural causes, so this data suggests that neuro-behavioural rather than organic gastrointestinal causes may account for this higher incidence in symptoms within autistic children.⁹ Sensory over-responsivity, being over sensitive to taste, texture, temperature and colour, for example, has been noted to be one of the main reasons for

autistic children being so selective about the food they choose to eat.¹⁰ In another study, children with social withdrawal, irritability and other issues that generally affect autistic children, were also more likely to have gastrointestinal symptoms compared to children with typical development.¹¹

It must also be taken into consideration that food selectivity, amongst other autistic behaviours, may very well not stop once a child has reached adulthood, and the complications of this selective diet may continue into later life.¹² Compared with non-autistic children, it has also been noted that obesity levels are also higher in the autistic community (30.4% compared to 23.6%). What is not certain is whether this is due to the restricted diet that they eat, a marked decrease in the levels of physical activity they partake in, or even possibly due to both. More research is needed to ascertain what the cause is.¹³

Although there is a definite issue with regards to autistic children not eating a wide range of food, there are other reports that show that, whilst they may not have a diverse range of eating habits, in some studies they have found that nutrient intake is

not too dissimilar to those children who eat a much wider range of food. In one study¹⁴ some children did consume less vitamin A and C and zinc than typical developed children, but overall nutrient intake was similar between the two groups. What is interesting is that in the age group 2-5 years, more autistic children were obese and 5-11 years, more autistic children were underweight. Whilst nutrient intake may not be an issue, either the amount of food eaten or another possible reason, inactivity, may be the cause of this.¹⁴

In another study of children with autism and language regression, it was noted that there were other diseases and illnesses linked to gastrointestinal issues in this group of children. For instance, it was noted that 40% of ASD children with language regression had abnormal stool samples compared to just 12% of non-ASD children. There was also a higher familial history of coeliac disease (24% in ASD, 0% in non-ASD) and Rheumatoid arthritis (30% ASD, 11% non-ASD). The study also noted a higher incidence of familial autoimmune disease in ASD children with language regression than typical developed children (78% compared to 15%). It would, therefore, seem that there is a link between autism with language regression, autoimmune disease and gastrointestinal symptoms.¹⁵

BEHAVIOUR MANAGEMENT

Behavioural procedures, such as non-removal of spoon, to deal with food selectivity is well documented in research. The non-removal of spoon technique, for example, requires the feeder to place food on a spoon and keep it there in close proximity to their lips until the child decides to eat the food. Behaviours such as crying, self-injury, pushing the spoon away and aggression should not result in the food being taken away, the spoon must be put back into position until it is eaten.¹⁶

This repeated taste exposure, along with escape prevention, can lead to the child becoming much less selective in their food choice.¹⁷ It has been shown that behavioural management techniques have a very strong link to how an autistic child responds to the food they have been given. If preferred food access is limited, then an autistic child is much more likely to access a wider range of foods. If they are given their preferred foods and then also non-preferred foods and punished for not eating them, this negative reinforcement has a detrimental effect on the behaviour of the child. Positive reinforcements and a limited access of their preferred foods is the best way to change this selectivity of foods.¹⁸ How parents deal with the food selectivity issue can bring about a great deal of change to the child's behaviour or it can exacerbate the situation.

CONCLUSION

What is clear from the research, in summary, is that there is a definite selectivity of food choices being made within the autistic child community and these choices are most probably due to over sensitivity of colour, taste, smell and even texture of the foods on offer. More research needs to be undertaken to look at the long-term implications of this food selectivity, and it needs to be recognised that each autistic child has different food choices and possibly bodily needs. More research also needs to be undertaken to ascertain why there is a higher level of obesity within autistic children and whether this is down to food selectivity, decreased physical activity or both.

Finally, and probably most important, it needs to be shown that this food selectivity doesn't just end when a child becomes an adult, so longer-term implications of this need to be looked into on an individual basis.

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