

How Autism Can Impact Nutritional Intake



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The National Autistic Society defines autism as “a lifelong developmental disability that affects how people perceive the world and interact with others” which has a prevalence of roughly 1% in the UK.¹ The way autism presents can vary a lot as it is a spectrum condition. However, the main features include differences in communication, social understanding, cognitive processing and processing sensory information.² The different way that people with autism experience the world can produce strengths such as: awareness of small details, good memory of facts and logical thinking skills. But some of these differences can also present challenges, including a negative impact on nutritional intake. Some studies report that 46-89% of children on the autism spectrum have feeding difficulties; compared to 13-50% of neurotypical children.³ This article explores the differences which can impact the dietary intake of those with autism.

Sensory differences

Those with autism can be hyposensitive (under-sensitive) or hypersensitive (over-sensitive) in terms of taste, sight, smell, hearing, touch, balance, proprioception (spatial awareness of our limbs) and internal cues (including hunger and thirst).⁴ Hyposensitivity can cause sensation seeking behaviour, therefore certain sensations can become addictive and repetitive. For example, being hyposensitive to taste can result in sensory seeking behaviours like eating non-food items (i.e. pica), such as: soil, dirt, grass, sand, faeces, etc. Whereas hypersensitivity can cause sensation avoidance, as these sensations can be so heightened as to cause extreme discomfort. For example, somebody who is hypersensitive to touch, may only be able to tolerate wearing specific types of materials. A person with autism could be both hyposensitive and hypersensitive within the same sense. For example, being hypersensitive to bitter and sour tastes but also hyposensitive to sweet and salty tastes.^{4,5}

Being aware of these sensory differences is crucial so that communication and environmental factors can be adapted accordingly. There are also strategies to overcome

some sensory differences, such as desensitisation programmes which are led by occupational therapists.⁶ Sensory differences can understandably have a significant impact on eating and, in some cases, can present challenges such as: overeating, undereating, difficulty progressing through textures when weaning, not recognising signals of hunger or thirst, restrictive eating (or ARFID in more severe cases), pica, difficulty with the eating environment or meal presentation, ritualistic eating patterns or continuous grazing.¹²

Communication differences

Differences in communication can present challenges in relation to food selection or mealtime behaviour. In cases where communication difficulties are more severe, food consumption or restriction can also be used as a coping strategy, as it may be one of the main parts of their life which the individual can control. It is important to adapt language accordingly to improve communication, and to be aware that language may be taken literally. For example, it is often best to avoid categorising foods as ‘good or bad’ or ‘healthy and unhealthy’.^{7,8}

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Social differences

Some people with autism may not have a social motivation to eat and may not respond to rewards in the same way that neurotypical people do. As discussed below, the social aspect of eating may also cause anxiety which can present challenges in terms of feeding.⁷ Therefore, some people with autism may prefer to eat alone or may benefit from some preparation prior to having a meal in a social setting.⁷⁻⁹

Medical considerations

Studies have found that 14-28% of children with autism have gastro-oesophageal reflux (GOR).^{10, 11} The British Dietetic Association (BDA) advises that: “*The diagnosis and treatment of GOR in children with [autism] is crucial to any improvement in their eating. It has often been observed in practice that eating problems can almost entirely be resolved by successful treatment of the GOR.*”¹²

Constipation, diarrhoea and bloating are also common in children with autism.^{5, 9, 13} Resolving constipation in particular has been reported to significantly improve feeding.^{11, 13} Referral to a gastroenterologist may be indicated if underlying gastrointestinal problems are suspected.¹²

Mental health considerations

A higher prevalence of mental health issues and learning difficulties have been observed among those on the autism spectrum when compared to the neurotypical population.^{14, 15} It is important to be aware that fears and anxieties related to eating or environmental factors can have a big impact on dietary intake.⁷ Anxiety related to mealtimes may involve: social interactions or expectations, communication issues, sensory demands, the behaviour of other’s at the meal, multitasking, unstructured time, change of routine or a new environment, etc.

Association with eating disorders

Avoidant restrictive food intake disorder (ARFID) has been associated with autism; although the overall research is lacking as this is a newly defined eating disorder.^{16, 19} According to the Diagnostic and Statistical Manual of Mental Disorders 5 (DSM-5) there are four criteria needed for a diagnosis of ARFID to be confirmed:^{17, 20}

1. *An eating or feeding disturbance (e.g. apparent lack of interest in eating or food; avoidance based on the sensory characteristics of food; concern about aversive consequences of eating) as manifested by persistent failure to meet appropriate nutritional and/or energy needs associated with one (or more) of the following:*
 - *Significant weight loss (or failure to achieve expected weight gain or faltering growth in children)*
 - *Significant nutritional deficiency*
 - *Dependence on enteral feeding or oral nutritional supplements*
 - *Marked interference with psychosocial functioning.*
2. *The disturbance is not better explained by lack of available food or by an associated culturally sanctioned practice.*
3. *The eating disturbance does not occur exclusively during the course of anorexia nervosa or bulimia nervosa, and there is no evidence of a disturbance in the way in which one’s body weight or shape is experienced.*
4. *The eating disturbance is not attributable to a concurrent medical condition or not better explained by another mental disorder. When the eating disturbance occurs in the context of another condition or disorder, the severity of the eating disturbance exceeds that routinely associated with the condition or disorder and warrants additional clinical attention.*^{17, 20}

In the context of autism, the fourth criteria for diagnosing ARFID (as outlined above) suggests that the eating disturbance must be more severe than is usually observed in autism, to the extent that this ‘warrants additional clinical attention’.¹⁷

Some studies have also found an association between autism and anorexia nervosa; particularly in terms of cognitive patterns and a ‘systemising’ approach to food, body shape or weight which is similar to how other special interests can emerge in autism.^{21, 22}

Dietary support

As each case is individual, a flexible and supportive approach is key which is adapted according to the presenting nutritional issues. However, some of the

common dietary management strategies for those with autism are related to creating a positive mealtime environment, which may include altering the meal environment to suit sensory preferences. Mealtime hygiene can also be used which encourages regular meal times, keeping the environment clean during the meal and not overwhelming with too many food options at once. Modeling good mealtime behaviour, positive reinforcement, involvement in meal preparation and introducing new foods using desensitisation strategies, such as encouraging messy play or 'food chaining', can also be useful approaches.

Exclusion diets

Gluten and casein free (GF/CF) diets have been promoted to improve the behaviour, mood and communication in some people with autism, but there is currently insufficient evidence to recommend these diets as a routine treatment for autism.^{9, 12} However, some people with autism do report improvements on a GF/CF diet and there is emerging evidence that there may be an association between autism, diet, changes in the gut epithelium and immune responses; but further well-designed studies are needed to investigate this.^{9, 12} The BDA recommend explaining the limited evidence-base and the risks and benefits of this approach in the context of an individual dietary assessment.¹² This should include discussing whether food selectively or issues with feeding could affect their nutritional status while on this diet. However, if a person with autism, or their guardians, wish to try a GF/CF diet they should be supported by a dietitian to ensure nutritional adequacy.¹² It is advised that a GF/CF trial should include three stages:¹²

1. Establishing the client's baseline diet, behaviour and bowels
2. An agreed and closely monitored exclusion period (The Sunderland protocol recommends at least three weeks for casein and three months for gluten)
3. A reintroduction period to establish whether the benefits outweigh the negatives of exclusion.

After this trial a follow up plan should be established if the client wishes to continue to exclude gluten and/or casein.^{9, 12}

The Gut and Psychology Syndrome (GAPS) diet is a non-evidence-based and highly restrictive diet which claims to 'heal the gut' and treat autism (although autism isn't a condition which can be 'cured'). This involves a specific three-step low carbohydrate diet, which includes fermented and 'raw' foods as well as supplements, 'detoxification' and lifestyle changes.²³ Criticisms of the GAPS diet include: the risk of serious malnutrition and vitamin A excess, potentially dangerous dietary advice targeted at infants, pregnant women and breastfeeding women and similarly irresponsible advice 'in extreme cases of profuse watery diarrhoea' to merely 'exclude vegetables' rather than seek medical advice.²³ Although the GAPS diet itself isn't recommended, there may be indications for aspects of the GAPS diet for those with autism. For example, a low carbohydrate diet may be indicated in some cases of epilepsy, a wheat or dairy-free diet in cases of allergy or intolerance, or improvements seen on a GF/CF diet as discussed above.

There is also some preliminary research into the use of ketogenic diets in the management of autism, however more research is needed to investigate whether there is a potential therapeutic use for this.²⁴

Overall, more research is needed into whether exclusion diets are safe and effective options as part of the management of autism.

Conclusion

There are numerous differences which can arise in autism which can have a significant impact on dietary intake. This can include: sensory differences, communication differences, social differences, medical issues, mental health issues and the risk of eating disorders, such as ARFID and anorexia. There are pros and cons related to exclusion diets in the context of autism, but at present more research is needed to see whether these are beneficial and safe options. In order to maximise outcomes for our clients we need to think about the full picture of autism, the individual and the evidence base so that we can provide holistic and personalised care.

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