

What is Different about Eating Disorders for Those with Autistic Spectrum Condition?

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ABSTRACT

Introduction: Eating Disorders (EDs) are increasingly recognised as a common comorbid condition in autistic spectrum condition (ASC). The diagnosis of ASC may be delayed in those who present with EDs, especially in females who account for 90% of such presentations. They often mask autistic symptoms by copying their neurotypical peers. This can have adverse consequences, as standard therapeutic approaches to the management of EDs are often ineffective at achieving complete recovery in those with ASC, even among those whose body weight is restored.

Methods: We reviewed the recent literature to explore the common factors defining ED's in ASC and illustrated this with examples from those with lived experience to define potential for therapeutic strategies.

Results: Anorexia Nervosa (AN) is the commonest subtype of ED in ASC and is contributed to by a high prevalence of associated gastrointestinal disorders. Anxiety over sensory issues with taste and smell are often a significant factor. Biosocial factors such as cognitive rigidity, obsession, compulsion and rigidity are also important. The role of specific issues such as alexithymia, hyperactivity, rejection sensitive dysphoria, personality disorder and gender dysphoria has been previously understated. EDs are likely to be less to do with body image and more to be a consequence of rigid or ritualistic behaviour patterns driven by ASC.

Conclusions: Treatment approaches must account for the unique challenges faced by this group. Art and drama therapy may be of help. Cognitive Remediation Therapy, dietitian-led interventions and clinician/carer/patient education have been proposed but have not yet been trialled extensively. We recommend that involvement of those with lived experience of these conditions is an essential part of treatment planning.

Keywords

Autism, Eating disorders, Anorexia, Alexithymia, ADHD, ASC, ASD, Gender dysphoria, Rejection sensory dysphoria

Introduction

Autistic spectrum condition (ASC) is associated with significant comorbidity in up to 70% of people, with Eating Disorders (EDs) comprising an increasingly common association. The comorbidity between ASC and EDs may be as high as 37% [1]. The diagnosis of ASC may be delayed in those who present with EDs, especially among females who account for 90% of such presentations. Women who exhibit severe and resistant EDs often have unrecognised

ASC [2] as they learn to mask autistic symptoms by copying their neurotypical peers [3]. This can have adverse consequences, as standard therapeutic approaches are not always effective in those with ASC, even in those whose body weight recovers [4]. This article explores the link between ASC and EDs, highlighting the importance of recognising and treating the complex issues that contribute towards EDs in people with ASC.

The link between eating disorders and autistic spectrum condition

The term autistic spectrum condition (ASC) is preferred by most people on the spectrum, so we have adopted it for use in this article.

ASC is associated with difficulties in social interaction, behaviour and communication and is neurodevelopmental in origin. Many features characterising ASC are also described in people with EDs. These include rigid repetitive patterns of eating, minimization of social contact at mealtimes and difficulty in communicating emotions. Anorexia Nervosa (AN) is highly prevalent, with as many as 52% of those with also fulfilling diagnostic criteria for ASC [1]. The prevalence of EDs has risen sharply over the last 20 years [5] and ASC is now much more widely recognised in women. Although both disorders are usually diagnosed during adolescence, girls much more likely to present with EDs while boys typically develop more overt features of ASC [6]. The temporal relationship is also interesting. Does a delayed diagnosis of ASC render an individual more vulnerable to developing later EDs, or do neurodevelopmental issues in ASC facilitate abnormal patterns of eating?

Women with ASC appear more likely to consider and complete suicide than autistic men [7] and masking of symptoms is a risk factor for this [8]. Other psychiatric conditions often co-exist in people with ASC and EDs, further complicating the situation. These include Obsessive-Compulsive Disorder (OCD), depression, anxiety, personality disorders and Attention Deficit Hyperactivity Disorder (ADHD) [1]. Possibly these conditions may reinforce EDs in people with ASC through their promotion of rigidity, ritual, anxiety, low mood and often excessive adherence to exercise. Certainly, ASC is a strong predictor of EDs in adolescence [9].

EDs in ASC occur mainly, but not exclusively, in females. AN is the commonest presentation despite it being the least common form of EDs in the general population [5]. In ASC, AN is rarely due to the false belief that an individual is overweight but often relates to more complex issues. Although an altered self-image (body dysmorphia) may contribute, the conviction that a highly selective diet may be better for both themselves and the world at large is commonly expressed. In addition, many people with ASC have sensory issues. They frequently demonstrate hypersensitivity to taste, texture and smell, all of which can influence what they are able and willing to consume [10]. They may select to restrict their intake to a narrow range of foods, with which they are familiar, and this may be compounded by a need to eat at a fixed time and place. They may withdraw from eating with others because of stress, ultimately eating alone, even on family occasions. Such an approach may reduce immediate stress but can lead to their increasing social isolation from friends and family.

The concurrence of EDs and ASC may render the diagnosis of both conditions a challenge. Concerns have been voiced about the perceived over-representation of male characteristics in diagnostic tools for ASC [1]. This may make it less likely that a female presenting with an ED will be screened for ASC. This is of concern as problems in social, emotional and cognitive domains can all contribute to worse outcomes in people with EDs. Some effort has been made to adapt longstanding diagnostic tools to distinguish ASC from AN by including a new section in the Autism Diagnostic Observational Schedule 2nd Edition (ADOS-2). The ADOS-2 can

detect autism traits in people with AN without undue influence from other psychological symptoms such as those found in depression and anxiety [11]. This is important as the physiological implications of prolonged extreme starvation can cause ASC-like symptoms further complicating the situation. Ultimately, an awareness of the frequent association of EDs and ASC is crucial because accurate and detailed assessment is not important for diagnosis alone, but also for ensuring effective management and ultimately optimal outcomes.

Types of eating disorders associated with autistic spectrum condition

Autistic adults are more likely to have one of several different forms of EDs including bulimia, binge eating disorder (BED) and other specified feeding or eating disorder (OSFED), all of which are more common in the general population than AN [12]. However, the most common ED in ASC is undoubtedly AN [1,6,13,14]. People with AN have similar profiles of cognition and patterns of emotional intelligence as those with ASC: these include systematic approaches to thinking, lowered empathy levels and challenges in recognising and responding to their own and others' emotions appropriately [2]. Accordingly, ASC traits demonstrated by the age of 7 can predict EDs arising during adolescence [15], suggesting that emotional, cognitive and social difficulties in ASC are risk factors for disordered eating later. Specific traits may determine which type of ED is most likely to develop.

While AN is particularly prevalent in people with ASC, avoidant/restrictive food intake disorder (ARFID) is also common in ASD. This subtype of OSFED may precede or follow a diagnosis of AN and can start at a young age and be associated with a fear of trying new foods [14]. The range of EDs in ASC is so great as to suggest a spectrum of features, just as is observed with autistic features. EDs can range from mild to severe, with different sorts of food-related focus and related behaviour [15]. Ritualistic or rigid behaviours often seen in people with ASC may produce an equally inflexible attitude towards food. They may find any social gathering challenging if it is focussed on food-related activities. A preoccupation with specific foods, or refusal to eat outside of a menu of acceptable items, are commonly observed or reported. ARFID may be the result of a fixation with health food, can lead to restrictive patterns of eating that focus on the source of food and added ingredients [15]. The term 'Orthorexia' is sometimes used to describe this phenomenon and is particularly common in young patients with ASD. When taken to an extreme, orthorexia may present with features of AN. This may be compounded by excessive exercise, often associated with comorbid ADHD. Such patterns of EDs in ASC imply that the problem is more due to controlling routine and ritual, rather than body weight or image, and may explain why disordered eating attitudes often persist in ASC even when weight has been restored following treatment [16].

Gastrointestinal issues in autistic spectrum condition

Gastrointestinal (GIT) symptoms are reported by up to 85% of young people with ASC [17]. Children with ASD show associations between GIT symptoms and poor sleep quality, which

subsequently also predicts difficulty with social integration [18]. Pain, bloating, diarrhoea and constipation were the commonest symptoms and caused considerable concern in children and their parents [18]. Feeding problems have negative implications for physical and mental health, as youngsters with ASC eat a narrower range of foods than other children. The ARFID eating pattern often reported in people with ASC may be associated with later malnutrition, vitamin deficiency, short stature, anaemia and premature osteoporosis [19,20]. Specific GIT disorders such as gastro-oesophageal reflux, coeliac disease and food allergies are often described in association with ASC [21] and associations with colitis have also been reported [22,23]. Adverse social outcomes such as self-harm and aggression are increased in those with inflexible eating behaviours and gut symptoms. Some people with ASC have reduced or avoided lactose or gluten in their diet in an attempt to improve symptoms of irritable bowel syndrome. Although there are no controlled trials of this approach specific to people with ASC, many describe subjective improvement in GIT symptoms and fatigue following this dietary adjustment. The increase in immune-mediated disease reported in ASC may extend to lactose intolerance and may contribute towards the increasing popularity of veganism in this group. Is it possible that increased immune sensitivity resulting in intolerance of certain foodstuffs is also associated with heightened sensory awareness [24,25]?

Sensory issues with food in autistic spectrum condition

A qualitative study in adults with ASC showed the pattern of disordered eating persisted from childhood and related especially to sensory issues. Many described adapting executive functions to allow them to cope [26]. Sensory aversions contribute to highly selective eating in many people with ASC, most often relating to taste, although smell also features [6]. Foods avoided by people with ASC are very varied, but strong, spicy or peppery foods are among those, which are most often avoided. Texture and appearance may also lead to dietary exclusion and this can include slimy food or substances requiring a lot of chewing such as red meat. Some people with ASC exclude a range of carbohydrates such as bread, pasta and potatoes. This is sometimes due to texture but concern about gluten sensitivity also plays a part. Most fruit and vegetables are acceptable although even here radish, rocket and mushrooms are frequently rejected. Even within specific fruit or vegetables, some people with ASC will only eat certain types of apples, melons or beans. Many people with ASC choose to become vegan or vegetarian, thereby avoiding meat, fish and often-dairy produce completely. This places them at risk of dietary deficiency disorders and supplemental intake of vitamins B and D are usually required [15]. Such highly selective eating is often accompanied by rigidity or ritualisation at and around mealtimes. Food is often prepared and eaten at a fixed time and location, not infrequently in isolation. Interference with this can lead to real distress as they often rely on routine for a sense of control. Some people prefer to be left alone while they prepare and consume their meals. They may experience painful or distressing sensory overload if forced to cook or eat with others. Changes to their usual routine may worsen anxiety and precipitate adverse physical consequences from reduced food intake. Change may also exacerbate any pre-existing

social isolation as family and friends may struggle to understand their behaviour. Even the sound or sight of someone else eating may cause significant sensory overload and resulting anxiety and distress for some people with ASC. Mutual rejection can result from this, making future attempts at support more difficult both to initiate and to accept [16].

Cognitive rigidity and obsession in autistic spectrum condition

The proposal that “anorexia is just a symptom, and the cause is autism” underlines the huge part that ASC can play in EDs because of inner cognitive issues [27]. Reduced central coherence, with inability to see the bigger picture, and increased cognitive rigidity, are described in each condition [27]. Early onset or prolonged EDs may be caused by defects in coherence and cognition in ASC, and the prognosis for recovery appears to be worse in the presence of ASC, with a greater chance that highly selective eating will persist [28]. People with ASC pay a lot of attention to detail and find change difficult to adapt to. ‘Black and white thinking’ is very frequent and the obsessive following of rules and regulations is typical. Obsession with counting calories or portions of fruit / vegetables is commonplace among people with ASC and EDs, often developing on the back of other pre-existing obsessive tendencies [29]. This is frequently linked to a sense of compulsion to maintain a standard approach to everything, especially to rituals around eating which they perceive as core and require rigid control and consistency. This OCD pattern of behaviour often starts at a younger age in people with ASC, typically around the onset of puberty or earlier. This cognitive rigidity in ASC means they often become fixated into repetitive patterns of eating behaviour. Their need for predictability around foodstuffs can cause their diet to become limited, then restricted [15]. For some, insensitivity to feelings of hunger allied to hypersensitivity to taste or texture, serves to reinforce these tendencies.

Anxiety and personality issues in autistic spectrum condition

General and social anxiety are extremely common among people with ASC and this often extends to issues with food [30]. Anxiety may be caused or exacerbated if individuals eat outside their normal diet, routine or company. If this occurs frequently, then food intake may be sharply reduced until or unless they can resume their usual arrangements. Anxiety may be associated with panic attacks or meltdowns if pressure becomes too intense, due to an unexpected change in usual routine or an accumulation of smaller changes. Such episodes often produce a ‘flight or fight’ response and can result in either prolonged silences or sudden anger and aggression. Both responses may be difficult for friends or family to understand and interpret. Bullying at school or on social media is a common experience for young people with ASC and they may adopt dieting and resultant weight loss as a means of exerting control, predictability and improving self-image. Indeed, this may reduce their feelings of anxiety and depression, although if serious weight loss ensues, it may induce changes in personality and even paranoia [31].

People with ASC can find puberty and its heady mix of emotions especially challenging. Their need for stability, privacy and a

predictable environmental is opposed by the development of new feelings that can threaten this. Impulsivity is especially common in those with co-existent ADHD, and when fuelled by alcohol or other catalysts it can under certain circumstances become dangerously addictive as it encourages evaporation of the inhibitions usually associated with ASC. The ability of those with ASC to handle such emotional turmoil is often reduced because their emotional intuition lets them down. This can lead to rejection, further reducing their self-image, or to exploitation with them being taken advantage of because of their perceived naivety. Both outcomes usually produce adverse results and may contribute to self-harm or suicide. Controlling their environment through their food intake and related rituals can provide an essential sense of routine and reliability in this otherwise changing and unpredictable environment. Such challenges are often also associated with major life changes such as moving to senior school or leaving school for University. In the UK, young people with ASC are therefore at particular risk of developing anorexia at 11-12 and 18-19 years of age.

Borderline (or emotionally unstable) personality disorder (BPD) is associated with both ASC and adverse outcomes in AN [32]. Over half of those with BPD in one study had AN [33] and many of these evolved into a different form of ED over time, most often orthorexia. At least 25% of people with AN meet the diagnostic criteria for BPD, and a similar percentage of those with BPD have AN [34]. People with ASC who also have BPD fall into the worst prognostic group for EDs and are often resistant to therapeutic intervention [35]. This may result from reduced emotional insight among those with both BPD and AN [36], with features suggestive of alexithymia.

Alexithymia in autistic spectrum condition

Alexithymia has been suggested as a unifying aspect and potential cause of EDs in ASC [37]. It has been reported in up to 50% of people with ASC and in a similar proportion of those with EDs [37]. Alexithymia is defined as difficulty in recognising and describing one's own emotions and is compounded by difficulty in understanding how other people feel experience and describe their emotions. A large study confirmed that higher autistic traits correlated with higher eating disorder symptoms, while higher levels of alexithymia wholly or partially explained this relationship [37,38]. While alexithymia was closely related to eating disorder symptoms in women, there were no links between alexithymia and eating disorder symptoms in men [28]. Clinicians already know that therapies need to be tailored and it appears that identification of alexithymia in women may be important as it is currently addressed by clinicians neither in those with ASC, nor in those with EDs. Although people with ASC are often thought to lack empathy, they can still feel emotions very strongly. However, as their ability to understand and process their own emotions is often markedly impaired, they may be unable to share their feelings with others in any depth. This perceived lack of emotional intelligence can lead to complex relationship issues and may precipitate self-harm or suicide if the person with ASC finds it difficult to handle resultant conflict either externally or internally. People who cannot

identify or express their emotions often find it hard to soothe themselves or get sustained support from others.

Although people with ASC and alexithymia feel emotions intensely at a basic level, emotions tend to be perceived at extremes of the range, with negative thoughts predominant. This may be related to the 'black and white thinking' many people with ASC demonstrate with regards to other issues. Emotions, it appears, often define and determine responses to food as well as to people and this may be attributable to alexithymia. This does not necessarily equate to a lack of empathy, but the individual often feels more strongly about principles, nature or animals than about other individuals, maybe because they find people's response harder to predict. In those with ASC and alexithymia, extreme views about food, its sourcing, preparation and consumption are common and are usually defended with great determination. This singularity can be extended into their social relationships: some describe devoting themselves to a cat or a cactus in preference to another individual. These emotional differences, and their repercussions, can have a major influence on their choice of lifestyle as well as on their eating habits.

Hyperactivity and ADHD in autistic spectrum condition

Hyperactivity is also frequently comorbid with ASC [39] and may contribute to unintended loss of weight. An urge to exercise excessively is rarely a result of a conscious attempt to lose weight among people with ASC. It is rather the consequence of a perceived obligation to self to adopt a punishing exercise routine, which will frequently consume more energy than is provided. Such routines are often complex and even perfectionist in their execution, and reduced access to exercise can precipitate anxiety or meltdown. Although the classic image is of a male with uncontrolled energy expended in a poorly channelled manner, ADHD is often expressed differently in women who are usually more adept at hyper-focussing on to a subject and making it their special interest for a few hours at a time. They therefore subconsciously turn this trait to their advantage. But it frequently intensifies their need for compensatory activity, and they often feel compelled to expend energy somehow. This can exacerbate weight loss if calorific intake is already reduced by highly selective eating which can have a critical effect on body weight, sexual development and growth if it occurs early in puberty. There is early subjective evidence that lockdowns over the last year have exacerbated the number and severity of EDs among young people with ASC.

Structural changes in the brain on magnetic resonance imaging similar in those with ASC and those with EDs [40]. Each demonstrate reduced volume with associated grey matter changes in specific areas of the brain. These often associate with rigid thinking and difficulties with social integration, with both implications and opportunities for intervention [40]. The need to exercise and expend energy may itself be complicated by a lack of physical coordination among many with ASC. This can make simple tasks like catching a ball or riding a bicycle quite challenging in early years. More complex tasks like racket sports can be very difficult, while activities that require balance may take a long time to master.

Performance anxiety and embarrassment may be sufficiently severe in those with ASC that they choose not to participate in games. The coordination and often unspoken cooperation required for many team sports can also pose a challenge, especially as many people with ASC for sensory reasons avoid close physical contact. This can further contribute to their sense of being different from others, leading them to seek solace in areas of their life, which they can control, such as physical activities that do not require cooperation or engender companionship like swimming, running, cycling or dance. They often later retreat to their own safe space to prepare and consume their meals away from the unwanted comments or critique of others, reducing anxiety but further enhancing their sense of social isolation.

Rejection sensitive dysphoria in autistic spectrum condition and ADHD

Over time, other factors may play an increasing part in the social, emotional and food-related challenges perceived by those with ASC and ADHD. Rejection sensitive dysphoria (RSD) is very common in ASC and almost invariable in those with coexistent ADHD [41]. Such people are extremely sensitive to criticism, rejection or the sense that they have fallen below their own expectations of themselves. This extreme emotional sensitivity causes real pain for them and can lead to the conviction that any comment directed at them that is not complimentary must equate to criticism [41]. This can cause anxiety, argument and often anger. Even a minor event or comment may be magnified out of proportion and can lead to a vigorous or violent reaction. Disproportionate anger can occur without warning, while on other occasions suppressed anger can lead to silent grudges, which may materialise as a subsequent unexplained discard. These features overlap significantly with those described in BPD [32-36]. This can pose a challenge for both personal and professional intervention by those who wish to offer support for EDs or related issues. They can feel like they are 'walking on eggshells' and this concern may significantly inhibit helpful intervention for fear of unwittingly precipitating anger, argument or conflict. The individual with RSD can feel hurt by loss of such support, especially as they frequently do not understand what they did to precipitate alienation [41]. Hence, intervention and support for those suffering from EDs who have coexistent RSD needs to allow for this extreme sensitivity and the therapeutic approach modified accordingly [42].

Gender fluidity, eating disorders and autistic spectrum condition

Gender fluidity among people with ASC has recently attracted much attention. Many people on the autistic spectrum are also on a spectrum of gender identity and are well overrepresented within the LGBTQIA group [43]. Indeed, it has been estimated that under 30% of people with ASC are actively and exclusively heterosexual [44,45]. This is no great surprise given the fact that many people with ASC struggle with their identity in many areas from an early age, and many feel rejected by main-stream society for one reason or another by adulthood [46]. EDs are extremely frequent among people with ASC and gender fluidity, which has now been suggested as a further specific factor in the development

of food-related issues [47]. Suggested mechanisms include a desire to alter body appearance in line with their desired gender status, amounting to a form of body dysmorphia.

Some people with ASC are asexual; many are homosexual, while bisexuality is common among females [48]. They are generally less likely to have children themselves and indeed, it has been reported that being asexual reduces anxiety amongst females with ASC [49]. The rapid expansion of numbers among those seeking to 'gender transition' has promoted much recent discussion [50,51]. It is apparent that people with ASC may consider themselves gender fluid or 'gender trapped', with females now exploring 'transitioning' in rapidly increasing numbers. This is now happening at an earlier age, especially among teenage girls with ASC. The association with increased mortality among 'transitioners' is striking. It is, yet, unclear how much of this relates to EDs by comparison with suicide or harm at the hands of others [52]. Other possible mechanisms for the high prevalence of EDs among autistic people on the LBGT spectrum include the need to assume stability in at least one area of their life, or an association with cult behaviour or peer pressure to belong to specific groups with perceived styles or looks that serve to identify them.

Transgender people with EDs often report specific issues relating to assumptions that the treating clinician makes about their physical and emotional being, and this can lead to negative experiences for them [53]. The relationship between gender identity and ASC can impact greatly on the outcome of treatment for EDs. Careful consideration of gender, including those who identify as trans or non-binary, is essential in the approach to the management of EDs in those with ASC and may have impacts that extend beyond the health care system into the criminal justice arena [54].

Treatment options for eating disorders in people with autistic spectrum condition

The use of art, drama, dance and music in the treatment of EDs in those with comorbid ASC has been explored over many years [55]. Art Therapy has been used to identify and resolve conflicts in patients with AN [56] and further developed and described by Hinz in 2006 [57]. A standard approach was proposed by Hunter [58]. A recent scoping review defined specific interventions using different forms of Art Therapy and explored their efficacy [59]. Drama therapy was explored by Dokter [60] who identified role-play as a means of encouraging a more open and creative approach which allowed patients with ASC to explore their feelings rather than having to explain them. This may be particularly helpful in the treatment of those with comorbid alexithymia. Drama was proposed as a means to guide neural integration in EDs in 2015 [61] and may also be useful for those with ADHD. Dance and movement therapy for patients with EDs was proposed as a way of re-integrating mind and body by Kleinman [62] and has again been suggested as improving body self-image and cognition especially among those with coexistent alexithymia and ADHD [63]. The benefits of music therapy, among other art and drama-based interventions in the context of family-based therapies, was the subject of a systematic review in 2013 [64] while the role of

such treatments was compared to other approaches for in-patients with EDs in a recent review [65].

Talking therapies are a common therapeutic tool in the management of EDs in general but may not prove effective among people with ASC [66]. ASD patients with EDs do worse with traditional treatment programs and tend to require longer admissions [67]. Alexithymia, sensory issues with certain foods and reduced central coherence all serve to limit the effectiveness of a standard approach, so treatment must be tailored to allow for these challenges faced by many people with ASC. Clearly, it is essential that all patients with EDs are screened for the presence of comorbid ASC and all clinicians involved in the provision of care need to be schooled in the specific changes to approach that such patients need to facilitate recovery [10].

A systematic review concluded that cognitive remediation therapy (CRT) may improve cognitive function and social cognition in those with ASC and EDs [4]. CRT can focus on improving cognitive coherence in the context of EDs. Although group therapy appears ineffective [68], repeat one-on-one CRT sessions can improve cognition in those with comorbid AN and ASC [69,70]. As yet, it remains uncertain whether improved central coherence after CRT reduces the impact of EDs and leads to sustained weight gain. Also, as CRT only addresses the cognitive element of EDs in ASC, it may not allow for sensory, emotional and communication aspects which are also important [71,72]. Hence, the recent development of 'PEACE Pathway' intervention also incorporates further aspects including 'Cognitive Remediation and Emotion Skills Training' (CREST) to address alexithymia, sensory screening and 'PEACE Menus'. The latter were developed along with specialised dieticians, and specific educational resources were made available for clinicians, carers and the patient [73]. It is unknown as to whether this approach improves outcomes of EDs in ASC, but it incorporates the basic ingredients of a wholeheartedly holistic approach and has recently been shown to be cost-effective [74].

Summary and Recommendations

ASC and EDs commonly co-exist, which often complicates diagnosis and treatment of both conditions. EDs in ASC fall on a spectrum from classic AN to fixations on specific food groups as in ARFID. In ASC, EDs are likely to be less to do with body image and more to be a consequence of rigid or ritualistic behaviour patterns driven by the ASC. Food sensitivity, poor central coherence, the inability to understand and express emotions, social anxiety, personality issues and hyperactivity may all contribute to the development of EDs in ASC. Treatment approaches must account for the unique challenges faced by this group. Cognitive Remediation Therapy, CREST, dietitian-led interventions and clinician/carers/patient education have been proposed but have not yet been trialled extensively. We recommend that involvement of those with lived experience of these conditions should be considered when planning future work in this area. This could help correct misconceptions and ensure that the experiences of those who have had to live with and through these issues

are highlighted, better understood and appreciated. This would help ensure the development of an appropriate and acceptable therapeutic program, together with a better and fairer society for those with ASC and related EDs. It should also allow those with ASC to utilise their many heightened skills to maximal effect rather than risk them being lost in an alien environment where soft social skills are still afforded too much priority when it comes to promotion and advancement.

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Conflict of Interest

"CMK runs a drama school for young people attended equally by those with ASC and those who are neurotypical. CAK has no conflicts of interest to declare."

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