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Accepted Version

Ozsivadjian, A. and Knott, F. ORCID: https://orcid.org/0000-0002-5334-7206 (2011) Anxiety problems in young people with Asperger syndrome: a case series. Clinical Child Psychology and Psychiatry, 16 (2). pp. 203-214. ISSN 1461-7021 doi: 10.1177/1359104511404749 Available at https://centaur.reading.ac.uk/25539/

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To link to this article DOI: http://dx.doi.org/10.1177/1359104511404749

Publisher: Sage

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Anxiety problems in young people with Asperger Syndrome – a case series

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Word Count: Abstract: 164

Main text: 5178

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Abstract

It is now well established that the prevalence of mental health difficulties in individuals with autism spectrum disorders is considerably higher than in the general population. With recent estimates of the prevalence of autism spectrum disorders being as high as 1% (Baird et al, 2007), increasing numbers of children and young people are presenting to local and specialist services with mental health problems in addition to a diagnosis of ASD. Many families report that the impact of the mental health problems can be as or more impairing than the autism spectrum difficulties themselves. Clinical services are frequently called upon to treat these difficulties; however, there is limited evidence for the effectiveness of treatments in this population. This paper reports a case series of children and adolescents with ASD and an anxiety disorder who were treated with a standard CBT rationale adapted to take account of the neuropsychological features of ASD. Common features of the presentation of the disorders and also treatment processes are discussed.

Key Words: *Autism spectrum disorder, anxiety disorders, depression, cognitive behaviour therapy*

Introduction

Among adolescents with autism spectrum disorders (i.e. autism and Asperger syndrome) co-morbid mental health difficulties, particularly anxiety and depression, occur at a substantially increased rate compared to the general population (Kim et al, 2000, Simonoff et al, 2008), with prevalence rates of anxiety ranging from 13.6% (Kim et al, 2000) to 84% (Muris et al, 1998). Although clinical services are frequently called upon to treat anxiety-related problems in this group, there is limited evidence for the effectiveness of treatments in this group, although recent treatment studies have yielded promising results (Sofronoff et al., 2005, 2007; Chalfant et al., 2007; Reaven et al, 2009; Wood et al, 2009). Current interventions may include medication, individual counselling, advice for parents or, increasingly, some form of Cognitive Behaviour Therapy (CBT). However, the ability of young people with ASD to access many of the integral components of CBT treatment can be limited by their specific neuropsychological deficits in cognition, and difficulties with communication, social understanding and imagination, problems of motivation, impaired theory of mind and abnormal emotional responses; unusual ways of demonstrating or reporting anxiety or distress; difficulties in modulating emotional responses and self control; and rigidity of thought processes/beliefs and poor generalisation to non-therapy settings (Anderson and Morris, 2006).

It can also be difficult for therapists to distinguish between what is comorbid anxiety and what are core symptoms of ASD. Formal diagnosis of anxiety disorders in this group is also problematic. Several anxiety disorders in both DSM-IV and ICD-10 cite

autism spectrum disorder as exclusion criteria: the implication being that an anxious processing style is an implicit feature of the autism spectrum presentation. However this does not explain why not all children with an ASD develop anxiety disorders, or why the course of the anxiety disorder may fluctuate while the ASD does not.

Studies of the neuropsychology of autism have yielded several influential theories that seek to make connections at a cognitive level between brain abnormalities and behavioural symptoms in autism (for a detailed review, see Happe and Frith, 1996). Theory of Mind refers to the difficulties that people with autism have with mentalising: that is, representing their own and other people's mental states, ie understanding other people's beliefs, intentions and desires (eg Baron-Cohen, 1985, 1993). Executive function deficits have also been identified in this group, in particular difficulty with planning and organisation, cognitive inflexibility and difficulty generating new ideas (Pennington and Ozonoff, 1996). Weak central coherence, which refers to the tendency to process information locally rather than globally, has been put forward as an explanation of the assets as well as some of the deficits in autism (Happe and Frith, 1996; 2006). Furthermore, language processing difficulties, sensory sensitivities and emotional dysregulation are also associated with the diagnosis. More recently, these theories have been applied to understanding 'autistic thinking', and how the neuropsychological differences may contribute to mental health difficulties, or influence therapeutic processes (Paxton and Estay, 2007; Anderson and Morris, 2006).

At the present time, there are limited systematic data available to indicate either whether CBT is effective in this group, or if so, in what form, with which individuals

and with which types of anxiety disorders. Consequently, clinicians working with young people with autism or Asperger Syndrome who also suffer from mood and anxiety problems lack any clear guidelines on what interventions are most likely to be effective. Based on the neuropsychological profile of strengths and difficulties associated with ASD, there is some discussion within the literature as to whether clinicians may be reluctant to use CBT as a therapy option, because of the associated difficulties with identifying emotions and cognitive inflexibility (Chalfant et al 2006), or whether CBT lends itself well to ASD, due to the structured systematic approach which lends itself well to the more concrete ASD thinking style (Hare and Paine, 2003). The treatment studies to date have almost all involved a group therapy format which limits the generalisability of the research to individual interventions as other factors may have played a role in the improvements seen, such as peer support and increased insight into ASD-related problems. The remaining literature consists of single case studies. In this paper, a case series of children and adolescents with ASD and an anxiety disorder who were treated with a standard CBT rationale with adaptations for ASD is reported.

Method

Participants

The participants were drawn from consecutive referrals to a neurodevelopmental disorders clinic for cognitive behavioural treatment of anxiety. All had a diagnosis of ASD based on the Autism Diagnostic Interview (ADI-R) (Le Couteur, Lord and

Rutter, 2003). All the children had a Full Scale IQ or Verbal IQ within the average range as measured by a WISC-III-UK, WISC-IV-UK or British Ability Scales. Two of the young people were on medication. The dose was not altered during the course of the intervention.

Measures

All participants completed the Multi-Dimensional Anxiety Scale for Children (MASC) (March, Connors et al, 1999), which is a self-report measure of anxiety symptoms. All participants also completed the Anxiety Disorders Interview Schedule (ADIS-C) (Silverman and Albano, 1996) parent or child version, with the exception of the OCD patients, who completed the Children's Yale-Brown Obsessive Compulsive Scale (CY-BOCS) (Goodman, Price et al, 1991), which gives a more detailed measure of OCD symptomatology.

Treatment

Treatment was delivered by the same therapist in all cases. A standard cognitive behavioural package was delivered, using individualised case conceptualisations based on the cognitive model of anxiety arising from increased threat perception and decreased perceptions of control over threat, as well as considering environmental and parental factors in the maintenance of anxiety (Rapee et al 2000). Psychoeducation about ASD and the nature of anxiety was also provided.

CBT treatment involved assessment/formulation sharing, setting treatment goals, generating a hierarchy of feared events/stimuli, identifying negative automatic thoughts, testing out beliefs by working through the hierarchy and generating alternative beliefs and ways of perceiving a situation. Thoughts and beliefs were elicited and challenged using thought records, Socratic dialogue where possible, pie charts and role play, and thoughts and anxiety fluctuations were tested out using behavioural experiments.

Parents were also involved in discussions around observational learning and environmental maintenance of avoidance behaviours.

For the OCD cases, an additional element derived from the Salkovskis (1999) model of OCD was used. According to this model, OCD arises from misattribution of responsibility for the prevention of harm, arising from misinterpretation of intrusive thoughts, and cognitive therapy involves re-evaluating the meaning attached to intrusive thoughts. The model was developed in the adult population but has recently been shown to have validity in the child population also (Reynolds and Reeves, 2008).

Adaptations to therapy were made to accommodate ASD profiles and neuropsychological processing styles. These adaptations were individualised to each client but included the following techniques:

1) At least two sessions were spent at the beginning on identifying and labelling emotions. Some time in sessions was also devoted to anxiety reduction techniques, particularly for those children with difficulty regulating their emotions.

2) Visual techniques were used during sessions, including use of body drawings to facilitate psychoeducation around anxiety; thought bubbles to identify thoughts; using drawings to link emotions, behaviours and thoughts.
3) Visual timetables were often used to have a visual structured plan for sessions, and a visual end-point.
4) Frequent breaks were included for those with a limited attention span. Activities and discussion took place at a table for those with concentration difficulties or social avoidance, to help with attentional focus and reduce the need for eye contact.
5) Cognitive inflexibility was addressed by adjusting therapist expectations. Thought challenging may be more difficult in this population due to difficulty shifting thinking, and perhaps also a desire to retain the status quo which is predictable. Therefore new, alternative thoughts were often attained in very gradual steps, often using parents or siblings to introduce new ideas.
6) Similarly concrete thinking, a lack of imaginative thinking or theory of mind difficulties mean that Socratic dialogue may be of limited efficacy in certain individuals. Where appropriate, the child was given a choice of two alternative thoughts, rather than expecting them to generate their own ideas.
7) Special interests were used, either for therapeutic purposes ('What would Dr Who say in this situation?....') or to regain motivation to interact socially if there was a temporary loss of motivation (tell me about the Dr Who Christmas Special?).
8) Parents were present for all sessions. While this would not be unexpected for the majority of this age group, parents often had an additional role of 'translating' for their children; although none of the children had language

difficulties on formal tests, they often displayed comprehension difficulties due to an idiosyncratic processing style, or over-literal interpretation. Parents were invaluable at recognising and rectifying these situations.

Results

1) Rosie (names have been changed in each case), an eight year old with a diagnosis of Asperger Syndrome, was experiencing anxiety in a variety of situations, pertaining to school, going out (to familiar and unfamiliar places) and changes in routine. She also experienced extreme separation anxiety and would not go anywhere other than school without her parents, and kept her parents within view at home. On the ADIS-C she met criteria for both Generalised Anxiety Disorder and Separation Anxiety Disorder. Although she was attending school with full time support, she was finding the school day extremely stressful and releasing stress at the beginning and end of the school day in the form of physical aggression towards her mother. Rosie's worries about going somewhere without her mother generally revolved around 'I won't know what to say'. She was reluctant to go out in case she saw a robber.

Rosie was insightful into her own feelings, and the links between situations, thoughts, behaviour and feelings. She was an able informant in both standardised interview and self-report measures. However she was liable to episodes of extreme emotional upset in early sessions and some time was spent on managing intense emotions, with a later focus on cognitive re-structuring.

Outcome: Aggressive episodes were reduced to none by the end of treatment. Her mother reported that Rosie was now more able to try new activities, although still greatly limited by her anxiety. She was also able to spend time alone in her room, which she had been unable to do previously. Her mother also noticed that Rosie's anxiety was rising less quickly, as previously it would reach ten out of ten very quickly, whereas now it was possible to help Rosie recognise and manage anxiety at 4 or 5 out of ten, preventing further escalation.

Parenting Stress Index scores fell by 22 points but remained high. MASC scores however rose slightly which was at odds with self and parent reports. Daily recording of anxious episodes showed a steady decline in the frequency and intensity of anxiety. At the end of treatment, Rosie still met criteria for Separation Anxiety Disorder, although severity ratings on items had decreased and functionally, many aspects of her life improved, such as being able to stay alone in another room to her parents.

2) Max had a diagnosis of Asperger Syndrome and OCD**.** He had developed elaborate rituals around 'disinfecting' himself and his possessions of the smell of school (specifically the dining hall). He also required others who had been to school to wash hands and preferably shower before they could touch him or even be in the same room as him. Max felt that he would be sick if he smelt the smell of school outside of school, although no further harm cognitions were identified. It was formulated that this was a sensory sensitivity that had escalated into an elaborate learned ritual, accompanied by intense distress if prevented from doing the routine. Initially Max's motivation to change was low, as he felt the routines he was imposing on himself and the family were not unreasonable and rational, but he recognised that life would be better without the OCD.

A graded hierarchy was constructed. Two different views of the problem by presenting two hypotheses:

Ho1: The smell of school is awful and must be avoided at all costs.
Ho2: The smell of school is unpleasant, but nothing bad will happen to me if I smell the smell of school – the fear of the smell is worse than the smell itself. The smell of school cannot be brought home on my clothes or other people's breath.

Behavioural experiments were devised, for example, the therapist asked Max to guess which of two books had or had not been in school. Predictions were evaluated as to how they fitted in with each hypothesis. Inconsistencies in Max's methods and beliefs were highlighted. For example, if his sister had sat somewhere with her uniform on, was it contaminated? If so, why didn't he notice?

Similarly to Rosie, early sessions with Max contained a high degree of intense emotion. He was also inflexible about certain ideas, such as a belief not necessarily being a fact and was quite controlling initially about the use of certain words, like belief. Some discussion was had around accepting other people's ideas and being open to new ideas, even if he chose to later reject them.

Outcome

Max's score in the CY-BOCS fell from 27 (severe) to 19 (moderate). The family reported that the functional improvement was far greater than reflected in the scores,

as rituals were interfering far less with family activity now. For example, he could now sit in the same room as his sister wearing her uniform, sit on a car seat without covering it, and keep his school bags in his room. However his MASC scores demonstrated a slight increase in self-reported anxiety symptoms, which was at odds with parental and verbal self-report...

Despite extreme initial resistance to the alternative hypothesis, he gradually began to show some cognitive shifting. He managed to shift from one hypothesis to the other, and accepted that it was the OCD making him do rituals, not because he really needed to rid himself of the smell of school. He also showed far less extreme reactions when presented with ideas of language that he found difficult to accept, and in general was more receptive to new ideas.

3) Felix was an eleven year old boy with Asperger syndrome and marked phobias. Initially he presented with a phobia of dogs. The phobia was preventing Felix from walking in the road or going to any parks for fear of seeing a dog. A graded hierarchy was constructed and completed over two sessions. Felix was able to make links between thoughts, feelings and situations competently. Initially, Felix's attention span limited discussions within sessions to twenty minutes but as he became familiar with the model and its aims, he was able to tolerate hour long sessions.

Outcome: By the end of treatment, he was able to comfortably be in the same room as a dog and help to hold a dog's lead while on a walk. His mother reported that visiting parks no longer posed the problem it did before, although he was still 'on edge' a little. However he then re-presented some months later with a fear of wasps. This was

also treated successfully using the same format, but illustrates the lack of generalisation across and within conditions. His MASC scores demonstrated no change.

4) Alexander was a ten year old boy with anxiety and low mood. He met criteria for Generalised Anxiety Disorder (GAD), and worried about a number of idiosyncratic worries such as taking toys out of their packets in case they got lost, performance related anxieties, and worries about whether friends' visits would go well. He also worried a great deal about school-related issues, such as getting from one class to another, and understanding the class proceedings.

Alexander took on board the cognitive behavioural link between thoughts, feelings and behaviours, and was able to fill in thought records. He became extremely skilled at generating alternative ways of looking at a situation and behaving differently, and understanding how that would change the feeling he was experiencing. Initially this was with support but he began to independently generate alternative strategies and test these out with behavioural experiments. Throughout sessions, it was necessary for his mother to re-phrase therapist's comments on a regular basis due to language processing issues (despite average language scores on formal testing). Regular breaks were needed to aid concentration, as thinking and conversation were visibly effortful for him.

Outcome: Post-therapy, Alexander no longer met criteria for GAD, and also demonstrated a reduction on both the Birleson Depression Inventory and MASC. His mother reported that he was more relaxed at home and in social situations, although

worries specifically pertaining to school remained. His parents were seeking alternative educational provision as it was felt that mainstream schooling was not meeting his needs.

5) Alfie was a fourteen year old boy with a diagnosis of Generalised Anxiety Disorder. His anxiety often took the form of aggression released towards his mother, especially if he felt she had failed to anticipate his anxiety. Triggers for anxiety included a fear of certain crisp packets, sensory sensitivity to internal physical stimuli, and misinterpretations of other people's actions. Alfie called thoughts his 'messages', and prior to commencing therapy, had already identified that he had good and bad messages. Therapy involved setting goals, and identifying cognitive distortions and misinterpretations of evidence that can result in anger or anxiety.

Outcome: At the end of treatment, aggressive outbursts had reduced to zero, and both Alfie and his parents reported that he was more able to cope with upsets or misunderstanding that six months previously would have resulted in a complete breakdown of a situation. However there was no change on either parental of self-report measures in terms of stress and anxiety. He still met criteria for GAD on the ADIS, but with reduced severity ratings for each worry area.

6) David was a fifteen year old boy with a diagnosis of Asperger syndrome and OCD. He washed his hands two to three times an hour. He was unable to identify any thoughts relating to germs, illness or contamination fears, but his mother stated that as a young child, he had worried about germs, and his OCD was precipitated by an incident involving dog faeces, and greatly escalated during a year in a school with

dirty toilets. A formulation was presented, and treatment focused on exposure/response prevention and behavioural experiments. David was able to perform in-vivo experiments but was non-compliant with homework, and was extremely resistant to thought challenging. He was also reluctant to engage in discussion in session, although he felt the formulation was informative.

Outcome: Although initially his hand-washing reduced following a successful behavioural experiment, he began to refuse to attend sessions and his hand-washing increased again to pre-treatment levels. Therapy was discontinued by mutual agreement. Possible reasons for the therapeutic rupture included inability to tolerate feelings of discomfort generated by the discussions and experiments, lack of flexibility towards new ideas, and a lack of rapport with the therapist. Table 1 details the measures used, and pre- and post-treatment ratings.

Table 1: Intervention summaries, pre- and post-treatment ratings

Participant	Number of sessions	measures	Pre-treatment	Post-treatment (Immediate)
Rosie	16	PSI* MASC* ADIS-C* Daily record of aggressive outbursts (frequency)	122 76 met criteria for SAD, GAD, Specific Phobia of loud noises and costumed characters. Average two aggressive incidents per day	100 85 met criteria for SAD, GAD and Specific Phobia, but with reduced ratings and fewer items checked. Average two per week
Felix	5	MASC ADIS-C	53 Met criteria for specific phobia (dogs)	53 No longer met criteria for specific phobia.
Max	17	CY-BOCS MASC	27 (severe) 88	19 (moderate) 94

Alexander	8	MASC ADIS Birleson Depression Scale	79 Met criteria for GAD 26	63 No longer met criteria for GAD 11
Alfie	15	PSI MASC ADIS-C	112 87 Met criteria for GAD	111 91 Still met criteria for GAD, but with reduced severity ratings
David	5	CY-BOCS MASC	20 Not fully completed	n/a n/a

Key to measures:

PSI: Parenting Stress Index, overall score mean=69, average range = 56-85MASC: Multi dimensional Anxiety scale for Children; 45-50 average, 56-60 slightly above average; 61-60 above average, 66-70 much above average, above 70 very much above average.

ADIS-C: anxiety disorders interview schedule for children. Assesses whether children meet DSM-IV criteria for anxiety disorders through interview.

CY-BOCS: Children's Yale Brown Obsessive Compulsive Scale. 0-7 subclinical, 8-15 mild, 16-23 moderate; 24-31 severe, 32-40 extreme.

Birleson Depression Scale: self-report measure. Clinical cut-off for depression of 15 has been suggested.

Discussion

Outcome and measures: All of the patients, bar one who dropped out of treatment, were able to complete the self-report measures. Most showed improvement on the measures completed by parental interview: of those who still met criteria for an anxiety disorder, all showed improvements in severity of symptomatology on the ADIS. For Rosie and Alfie, additional benefits were seen on behavioural measures; incidents of aggression dropped from daily to one a week and also reduced in intensity. Subjective parental and school reports also indicated therapeutic gains, indicating that the children were calmer and more willing to tell someone how they were feeling. A drawback of this case series is that not all the measures were used with all of the families, for example, the ADIS-C was not administered in addition to the CY-BOCS due to time constraints. However this reflects the realities of clinical practice.

Despite these treatment gains, few showed improvements on the MASC, which is a self-report measure of anxiety. Two in fact showed an increase. This finding was disappointing but is commonly reported anecdotally amongst clinicians working with this client group. The lack of change on measures is in contrast to parental and child reports of improved functioning, and may reflect an increase in insight into their emotions and difficulties over the course of therapy. This merits further investigation, and also suggests that specific measures should be developed for this group, including items measuring ASD-specific manifestations of anxiety, such as an increase in repetitive and stereotyped behaviours, and withdrawal from social interaction. Using a parallel parental version of child measures may be essential for cross-validating self-

report measures. A lack of change in the parental stress measures is likely to reflect the on-going stresses of parenting a child with autism, despite the improvements in target problems.

All bar one of the participants successfully completed the intervention. They all, to some degree, successfully identified thoughts, feelings and behaviours and the links between all three, and were able to generate rational alternative thoughts that were maintained at follow-up. This case series also demonstrates successful application of individualised case conceptualisations rather than a manualised approach.

Therapy content and process: What worked?

In all the cases described, the children became more adept at talking about and measuring their feelings. Talking about feelings and having them out in the open may in some way facilitate a sense of mastery and control over emotions, which may feel overwhelming at times for people with ASD. Difficulties with understanding and managing feelings is a key deficit of ASD, and psychoeducation and regular discussion around emotions may in itself be of therapeutic value in helping the child understand and normalise these feelings.

It was felt that having a clear CBT model to work from also aided the therapeutic process. As with typically developing populations, the use of visual presentation of formulations enabled children to make links between thoughts feeling and behaviour, and some of the children began to set their own behavioural experiments, indicating a clear understanding of the model and a sense of achievement at attaining goals.

Visual techniques were essential in aiding the therapeutic process. Use of visual thermometers, visual timetables for sessions and visual summaries of key discussion points were invaluable for maintaining client interest and focus, and aiding understanding.

Practical measures such as setting clear parameters and structure to each session and therapy overall, also helped the therapeutic process. Factors such as the set up of the room (for example, having table and chair activities rather than having the chairs arranged in a circle, to reduce the need for eye contact) also improved the therapy process for some individuals.

Setting clear behavioural goals was also an important feature of the process. As well making therapeutic change more concrete and meaningful to the young people, it also helped provide an additional measure of outcome, which given the disappointing lack of change in self-report measures, was an important way of triangulating outcome results. For example, Rosie showed no change on the MASC and little change on the ADIS-C, but was no longer physically aggressive towards her mother as well as being more able to separate and try new activities.

CBT emphasises a collaborative therapeutic relationship, but this may be compromised when working with the ASD population for a number of reasons. Firstly, social interaction difficulties may make engaging with the therapist difficult on a social level. Secondly, difficulty with generating ideas and inferential thinking may mean that therapy needs to be more didactic, especially towards the beginning of

treatment, rather than collaborative. Clearly, this varies from individual to individual, and in some cases, the therapeutic relationship may become pivotal as the child begins to gain trust and feel positively regarded. In either case, there is scope to promote collaboration and warmth by reassuring the client that they will not be asked to do anything they do not agree to, allowing them to set the pace of treatment (within reason) and reducing social pressures, for example, by acknowledging that it is ok if they prefer to look at the wall while talking to the therapist.

What doesn't work?

Having a rigid idea of how many sessions and how long each session should take is likely to be unhelpful as this varies enormously from individual to individual. Some clients may benefit from shorter, more frequent sessions, others may benefit from longer sessions incorporating breaks. This may of course not always be practical or feasible and depends on flexibility within the service. Treatment duration may need to account for additional sessions for psychoeducation, emotional literacy, and also therapeutic ruptures. Observations from the work performed with David suggested that setting the pace too fast was unhelpful. As this was an OCD case, the therapist tried to stick to a set treatment protocol, but on reflection, this was not appropriate as the client needed more time at the beginning of therapy to build trust in the therapy and the therapist.

It is also extremely important for the therapist to stay focused on the topic in hand. Due to a circumlocutory conversation style and difficulties with self-organisation, allowing sessions to be overly client-led can in some cases lead to circular discussions

or a loss of focus. Balancing maintaining rapport with maintaining focus can be tricky, and requires astute clinical judgement on the part of the therapist. Here, knowledge of social skills training may be effective, for example, reminding patients that 'it's time to stop talking about (special interest) now, remember we were talking about…'

Managing emotional outbursts and extremes effectively are also an essential part of the therapeutic relationship with young people with ASD. What may seem like an extreme therapeutic rupture may be totally forgotten about by the next session, or conversely, there may be excessive remorse and catastrophic worry that the therapist may no longer hold them in positive regard. It is important for therapists to be prepared for such events and remain a constant figure of support, while reminding clients of boundaries of acceptable behaviour, or employing techniques agreed with the parents, such as time out to calm down. Ruptures may also provide valuable 'golden moments', or discussion points.

It can also be difficult to stay focused on the piece of work being carried out, as other issues such as educational issues arise. It may be necessary for the therapist and parent to think about priorities and terminate therapy if other issues are more of a priority. Indeed, a therapist may need to think carefully about whether to commence therapy at all, if there are more pressing issues or more appropriate ways of addressing the problem, such as environmental modifications.

Conclusions

This case series demonstrates successful application of an evidence-based CBT treatment protocol for anxiety disorders in the ASD population. It highlights some of the strengths and pitfalls in the available measures and CBT techniques, and demonstrates the augmentation of traditional CBT techniques with individually tailored and neuropsychologically informed ASD-specific modifications. It also highlights some of the practical challenges, particularly facing clinicians in front line services who are referred clients with ASD.

The idiosyncratic presentation of some of the underlying beliefs in the disorders suggests that more investigation of the cognitive process and content influencing the development and maintenance of anxiety in ASD is warranted. Development of a cognitive model specific to this population is necessary in guiding therapeutic interventions, and also furthering knowledge as to why anxiety disorders are so much more prevalent in this group. There are many factors specific to ASD that may lead to an increase in anxiety symptoms, such as a lack of central coherence through which to make sense of the world, difficulty with theory of mind that may mean that other people's behaviour is perceived as threatening, and in more intellectually able children, an awareness of differences between themselves and other children that heighten feelings of inadequacy. Organisational difficulties may mean that seemingly routine activities become threatening, such as finding one's way from one classroom to another. Executive functioning difficulties may mean that generating alternative ideas or ways of managing situations is difficult, and cognitive inflexibility may mean that viewing a situation in an alternative, less threatening way is also difficult. A thorough understanding of the disorder and the autistic style of neuropsychological

processing is perhaps the single most useful tool that a therapist can bring to an intervention.

Functionally, anxiety often leads to restricted activity and less exposure to the world, as children with anxiety begin to avoid more and more activities and situations. It is possible that in ASD, anxiety serves a function of imposing order on a disordered world, by reducing the number of situations that are confusing and hence threatening.

As identification of ASD continues to improve, prevalence rates increase and hence also the numbers of individuals with ASD and associated emotional and behavioural problems presenting to local and specialist services increases. In the absence of a guiding model for treatment, clinicians should draw from their own expertise and experience when working with this client group, and seek out specialist supervision if necessary. Further research in understanding the nature of anxiety and mood problems in this client group is needed to determine whether existing models are appropriate, or whether more developmental, ASD-specific models need to be developed. Nevertheless, the evidence from the treatment trials and various case studies suggests that CBT has the potential to be an extremely useful intervention approach with this client group.

Acknowledgements: We would like to thank Professor Pat Howlin, Dr Jody-Warner-Rogers and Dr Ian Frampton for their invaluable thoughts and comments on the first draft of this article.

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