



Differences and similarities of ASD and Tourette Syndrome

*Autism spectrum disorder and Tourette Syndrome have many similarities, but there is a long way to go in the acceptance and understanding of both, writes **Seonaid Anderson**.*

There are many differences and similarities between Tourette Syndrome (TS) and Autism Spectrum Disorder (ASD) such as prevalence, symptoms, co-occurring conditions and movements which are associated with each condition.

TS is a genetic, inherited neurological condition in which people experience both vocal (sound) and motor (movement) tics, which can affect their wellbeing and learning. TS is one of a number of tic disorders. What is said about TS can be applied to all tics and tic disorders, especially as the clinical pathways and treatment are exactly the same in terms of medications and behavioural therapy.

ASD is a pervasive developmental disorder with a range of deficits in social communication and social interaction. One of the similarities that ASD and TS share is the evolution of the understanding and acceptance of both conditions. However, it could be argued that TS is still behind in this regard. ASD was once considered to be a rare condition, but prevalence

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estimates have risen, and suggested rates are around 1% to 2%. Previously, TS was also seen as rare, whereas now it is estimated that it affects 1 in a 100 school children. Therefore, many teaching professionals will have come into contact and taught students with TS. However, although prevalence rates can be suggested to be similar for ASD and TS, ASD is more well-known and well-funded than TS.

“There are still myths surrounding Tourette’s Syndrome”

Overlap

Another similarity is that both TS and ASD are conditions that begin during childhood and mostly affect males. The male to female ratio is approximately 3:1 in TS and 7:1 in ASD. As well as similarities in terms of prevalence and gender ratio, research has also found that there are a significant proportion of TS patients who also have ASD. The rate of TS in children and adolescents with ASD has been reported by some researchers to range between 6 and 8%. Others have found much higher rates up to 22% for comorbid tic disorders in ASD (often these are in clinical populations). Tic disorders such as TS are also found more commonly in special education populations.

Myths about Tourette Syndrome

Although TS is a common neurological condition, there are still myths surrounding it and a continuing journey for awareness and acceptance. Some myths about TS include that all people with TS swear, when in fact only about 15–20% people have this tic. Often TS is portrayed this way on TV and in the media. Frequently, it is assumed that TS is an excuse for someone behaving badly. However, it must be reiterated that tics are involuntary, and people with TS are not just ‘saying what is in their heads’. TS does have the potential to interfere with major domains of daily life of both children and adults, such as school, work status and relationships.

Differences

One of the marked differences between ASD and TS is that ASD is a lifelong, developmental disability whereas for TS it is

thought that approximately half of children with a TS diagnosis will see a significant reduction in their symptoms as they approach adulthood. However, that does leave around 50% of patients living with TS throughout their life, but with symptoms coming and going in terms of frequency and severity.

As we know, the term ‘spectrum’ is used to indicate the wide range of abilities and difficulties associated with ASD. There have been arguments put forward as to whether TS should be renamed. Many regard it as a spectrum (like ASD) with people varying in terms of the severity of their condition including the frequency and intensity of their tics. Such has been the shame and stigma associated with the label of TS that some clinicians and families have been using the term ‘tic spectrum’ instead, which they find more acceptable.

Tics and stereotypies

There are similarities in terms of both ASD and TS having movements associated with them however we can conclude that those movements are very different indeed. Although they may look similar, the causes behind the movement features of TS and ASD are different. In TS, physical tics are involuntary and usually accompanied by a physical sensation (premonitory urge) before the tic. In ASD, movements are called stereotypies. The onset of stereotypies occurs at earlier ages (<2 years) than tics (6/7 years). Stereotypies are more constant in time and pattern, whereas tics wax and wane over time. Tics tend to be rapid and random whereas stereotypies are more rhythmic, often involving flapping and waving. Repetitive movements in ASD may help reduce or increase sensory input when feeling over or under stimulated or it may also bring enjoyment. There may be other differences too but both stereotypies and tics tend to increase during periods of excitement or stress.

Speech and cognitive abilities

Another area of similarity is that both TS and ASD can have some speech abnormalities involving the involuntary repetition



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of words, phrases or sentences that they hear. This is called echolalia and/or palilalia, which is repeating one’s own words or the words of others. Individuals with ASD can have sensory sensitivities such as sensitivity to light, sound, colour, smell, taste or touch. Similarly, individuals with TS may present as being upset or overwhelmed in environments such as busy classrooms and shopping centres due to sensory overwhelm.

Cognitive ability in those with ASD can range from profound disability to superior intelligence. TS does not affect cognitive ability, but it can have an effect on children’s learning. Concentrating on a lesson can be challenging if a child is trying to manage their tics. Co-occurring conditions may disturb learning with ADHD affecting concentration, OCD perfectionism meaning they spend too long on tasks or impulsive traits such as calling out. Classroom support for executive functioning skills, such as giving extra time to process instructions or material, employing task planners and having realistic expectations can be helpful. Mental health can also be an issue for individuals with ASD or TS such as depression, anxiety and anger. It is important to seek help and support from local CAMHS (Child and Adolescent Mental Health Service) or an educational psychologist.

How teachers can help

Teachers can greatly help children with TS in the classroom environment, and good communication with the young person and the family can help schools to better support the student with TS. Ask the student about their tics and how they have managed them in the past and recognise that some of their tics can interfere with things like handwriting or seeing the board in the classroom if they have blinking tics. Teachers should also understand that being anxious causes tics to get worse, so speaking to the student and understanding how their TS affects them is crucial.

If a student is actively suppressing tics, this may impact on their attention. The student may also have anxiety about ticcing in front of peers and may be more susceptible to mimicking, teasing and bullying. Teachers may mistake tics for rude behaviours such as an eye rolling tic, which is not behavioural but neurological in the case of TS. Behavioural therapy is recommended for tics, but this does not mean that TS is a behaviour problem as tics are never done on purpose. Behavioural therapy is a skills-based treatment approach helping people with tics manage them when they want to. Children shouldn’t be told to stop their tics or punished for them; this can cause embarrassment, anxiety and shame. It should be discussed beforehand with the student how to cope when they are having tics in the classroom. Strategies such

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as allowing the student time out of lessons and a safe place to release tics may be useful.

Covid-19

Researchers have suggested that Covid-19 might increase mental health difficulties disproportionately in people with tic disorders, and we can imagine this might also be the same for individuals with ASD. In particular, some individuals with tic disorders also have vocal tics which look very similar to some Covid-19 symptoms, like a dry cough, throat clearing or sniffing. Having TS and being in school can increase anxiety and will no doubt also increase tics. Understanding and support during this time will be helpful. Both ASD and TS can have sensory sensitivity associated with them which can also be challenging for students required to wear masks. TS patient support associations have also produced information cards which can be shared with others to explain that the person may have tics which seem similar to some Covid symptoms but not to be worried by them and that wearing a mask may be problematic for them.

Finally there are misconceptions that people with ASD are often stereotyped as having savant abilities like those depicted in the film ‘Rain Man’. There are also misconceptions about people with TS such as ‘all people with TS swear’ and that they are simply behaving badly and ‘just saying what is in their heads’ instead of it being a condition which is neurological and involuntary. Understanding, awareness and acceptance will help all people with differences and hopefully one day the myths, stereotypes and stigma about TS and ASD will be left behind. 

Further information about Tourette’s is available on these websites:

acamh.org/topic/tourette-syndrome/
gosh.nhs.uk

nhs.uk/conditions/Tourette-syndrome
tourettes-action.org.uk