



# Autism spectrum disorders in general dysphoric children and adolescent

اضطرابات طيف التوحد لدى الأطفال والمراهقين الذين يعانون من خلل  
النطق بشكل عام

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## **Autism spectrum disorders in general dysphoric children and adolescent**

### **Abstract:**

Autism spectrum disorders (ASD) are common neurodevelopmental disorders that affect the social, communicative, and behavioral growth of children and adolescents. Individuals with ASD display difficulties in social interaction, language communication, and exhibit restricted and repetitive patterns of interests and activities. Children and adolescents on the autism spectrum also struggle with adapting to change, understanding emotions, and social cues. ASD is a complex phenomenon, with individuals varying in the severity of symptoms and challenges they face. Some may experience significant difficulties that impact their daily lives, requiring intensive support and care, while others may have milder difficulties and possess specific skills and abilities. ASD also has a significant impact on the mental health of those affected, as individuals with ASD may experience depression, anxiety, and emotional distress. Many children and adolescents on the autism spectrum struggle with perceiving and expressing emotions, leading to dissatisfaction and emotional disturbance in some cases. Research indicates that early support and appropriate intervention can improve outcomes for children and adolescents with ASD. Treatment should include behavior, communication, and social interaction training, as well as support for learning and adapting to the surrounding environment. Dealing with children and adolescents on the autism spectrum requires a deep understanding of their challenges and providing an encouraging and supportive school and social environment to enhance their growth and development. In general, there is a need for increased awareness about ASD and the provision of necessary support and resources for children and adolescents with ASD. Promoting societal understanding and acceptance of these individuals and

creating an inclusive and empathetic environment will help them integrate into society and achieve their full potential.

Over the years, an increasing number of patients experiencing autism spectrum disorder (ASD) and gender dysphoria (GD) have been reported. GD is a mental disorder whereby an individual lacks conformity between the assigned gender at birth and real gender identity portrayed. Individual's sexual characteristics and allotted gender roles are significantly distressed in the diagnosis of GD. Furthermore, some individuals may undergo a complete transition from one gender to the other, displaying completely opposite characteristics with the gender by birth. The terms trans-sexualism, trans female and trans male have been used extensively in GD to define individual's innate gender but transitioned into the opposite one, for instance, individuals who had male gender but end up developing a female identity and individuals assigned female gender at birth but end up portraying a male identity. Conversely, ASD is a mental deficiency where individuals have seemingly insufficient social skills, wherein they show signs of immaturity when communicating or interacting with people. Generally, ASD encompasses different challenges in the cognitive and behavioral adaptabilities. Although GD and ASD are two distinct mental disorders, their co-occurrence is an interesting topic in the field of medicine because of the challenges it posed in the diagnosis and therapeutic processes.

In exploring the co-existence of GD and ASD, Heylens, Verroken, De Cock, T'sjoen, and De Cuyper (2014) dispute any possible relationship between the two health conditions. These disorders are described as being distinct, and the study indicates lack of consistency in examined patients. According to Heylens et al. (2014), gender identity disorder (GID) is developed gradually since birth and does not have any connection with the

genetic characteristics of parents, birth complications, or any medications. Through a physiological examination, a female patient describes her GID experience throughout her life. Although she was born like any other normal women, she progressively developed trans male characteristics and withdrew from any female aspects even in her social interactions. The lack of social and emotional female demeanors demonstrated the co-existence of autism and GD. Meanwhile, van Schalkwyk, Klingensmith, and Volkmar (2015) indicate that there is minimal proof of co-occurrence and etiology for GD and ASD. By contrast, a study conducted by De Vries, Noens, Cohen-Kettenis, van Berckelaer-Onnes, and Doreleijers (2010) concludes that any co-occurrence of GD and ASD could be attributed to the existence of possible associations between the neurobiology of the parents and that of the child. Although the authors explore the co-existence of the two conditions, their diagnostic and management strategies are immensely different.

In the diagnosis and treatment of these mental conditions, several factors are considered to find a link between GD and ASD. For example, Skagerberg, Di Ceglie, and Carmichael (2015) determine mood and conduct disorientations as important parameters for diagnostic analysis while examining GD and autism in a given population; whereas, Heylens et al. (2014) describe intelligence and executive functioning, gender examination, and individual perceptions about self-image and emotional states as the essential parameters. However, according to van Schalkwyk et al. (2015), no standard diagnostic procedure is available that can be used in measuring the two conditions simultaneously.

Diagnostic studies indicate disparities in the concurrent incidence and prevalence rates of the two health conditions. In a study on 166 participants from London, Skagerberg et al. (2015) reported varying figures on several diagnostic features of autism

in people with GD. In this study, 54.2% of the participants showed a mild to moderate autistic characteristics with the majority lying in this range. However, the study indicated that approximately 48.9% of the participants that were diagnosed with severe ASD using a social responsive scale had not been diagnosed previously with the same condition. Although different studies tend to give men a higher score in terms of autistic characteristics, no significant difference in the overall score for autistic characteristics between men and women is observed (Skagerberg et al., 2015). The limitation of this study is that some characteristics of GD may have been misconstrued for ASD, thereby giving varying scores for the prevalence and incidence of ASD between the two genders. Some of these characteristics include social awareness, cognition, and interactions (Strang et al., 2018). Women are shown to have a higher social motivation compared with men. According to Van Der Miesen, Hurley, and De Vries (2016), the co-occurrence of GD and ASD can be attributed to some factors, which can be classified as biological, physiological, or social factors.

Van Der Miesen et al. (2016) used the male brain theory to explain the co-occurrence of GD and ASD. Accordingly, women are naturally empathizers, whereas men are systematic. ASD is characterized with impaired empathizing and enhanced systemizing; thus, ASD is highly probable in women who tend to display male behaviors. Furthermore, brain lateralization enhances both ASD and GD, which leads to the expression of male physiognomies. Consequently, most women diagnosed with ASD tend to show signs of GD because of brain lateralization. Strang et al. (2018) illustrate the maternal social responsiveness as one of the primary factors that influence gender articulation and social expression of an individual. The social history of an individual is also a determining factor of the studies on gender non-conformity and social relations.

An individual who lacks an opportunity to improve his or her social skills, for example, during the parenting process, may be socially withdrawn and may feel like he or she is socially rejected. Consequently, awkward social behaviors such as poor communication skills, low self-awareness, and low executive function may be observed (Strang et al., 2018). In the detailed examination on ASD in GD children and adolescents, De Vries et al. (2010) note how communication deficits resulting from ASD may cause low gender awareness, thereby triggering GD. A low executive function may lead to low cognitive thinking and uncertainties in the thinking processes, which may have some effects on gender awareness. In De Vries et al.'s (2010) study, out of 11 children suspected to have ASD ( $n = 108$ ), only 7 children (6.4%) were diagnosed with this disorder. However, the study reported a 1.9% incidence of GD in the children suspected to have ASD, which is an indication of a possible co-occurrence of GD and ASD among children and adolescents.

Dr. Turban specializes in psychiatry, abnormal psychology and pediatrics. He currently works at Massachusetts general hospital department of child and adolescent psychiatry. Dr. van Schalkwyk is a psychiatrist in Butler Hospital Providence area. Also, he has received several awards such as the American Academy of child and adolescent psychiatry pilot award. According to Turban (2018), highlights that there is a gender variance of 5% to 7% among the youths diagnosed with ASD as compared to 1% in the populace. The authors conducted research using two groups of participants. The first group assessed gender variance prevalence among the youth adults with ASD. The second group examined the rate of autism spectrum disorder diagnosis in youth who visited Gender Identity Clinics. The study incorporated a sample of 77 young adults with and 52 children. The research was undertaken through semi-structured two to four hours interview. The study

identified one child with GID and 77 adolescents with GID also satisfied the criteria for ASD. Notably, most of the research done in this area is associational; there has been no conclusive data to affirm that GD emanates from ASD.

Currently, Roald A Øien works in Yale University, Faculty of Medicine, Child Study Center, New Haven, CT, USA. Additionally, Domenic V. Cicchetti, Ph.D. is a graduate of Connecticut University and currently working at Yale University School of Medicine. He holds three positions namely; Senior Biostatistician, Senior Research Scientist, and Senior Research Psychologist. Anders Nordahl-Hansen of Østfold University College, Halden has expertise in Psychometrics, Developmental Psychology, and Special Education. The authors undertook research to identify co-existence of Gender Dysphoria and autism spectrum disorder in the periods of 1946-2018. The research was a longitudinal study following individuals from childhood through adolescence to adulthood. Additionally, the results of the research were presented by frequency descriptive statistics. The study samples were obtained from EMBASE database searching strings with names such as gender ident, gender dysphoria, transsex, and add-nos among others. The authors analyzed studies that were published from 1946 to 2018. The outcome of the investigation indicated that there had been an increase in studies relating to GD, ASD, and sexuality in the past decades.

Dr. Polly Carmichael is GIDS Director and Consultant Clinical Psychologist at GIDS London, Leeds, Satellite clinics. Also, Di Ceglie, D. holds Degree with honors (110/110 cum Laude) in Medicine and Surgery at University of Perugia. Currently, he is Consultant Child & Adolescent Psychiatrist, Lifetime Honorary Appointment, the National Gender Identity Development Service (GIDS), Tavistock and Portman NHS Foundation Trust, London. The authors assessed autistic features

in infants and young adults with GD. Also, the interplay between GD, rating on the social responsiveness scales (SRS) and identified symptoms of ASD. A sample of 166 adolescents with GD was assessed by completing an SRS. Additionally, information regarding ASD diagnosis was mined from patient's records. Moreover, 45.8% was at a normal range of responsive social scale and of those 2.8 percent exhibited ASD symptoms. 27.1 % of the sample is within the mild variety and of 27.1%, 15.6% shown ASD symptoms. Further, 27.1 is within severe range, and 24.4% of 27.1 % showed ASD symptoms while 26.7% exhibited ASD query. The findings highlight that about half of adolescents diagnosed with GD also exhibit autistic characteristics.

Dr. Vickie Pasterski has extensive specialist training in gender development and behavioral science. Besides, he is a Clinical Psychologist interested in Early Intervention in Complex Developmental Trauma/ 'Emerging EUPD,' Psychosis and Gender Dysphoria. Dr. Curtis holds medical degree from Weill Medical College of Cornell University. In addition, he is the Chief of Gastroenterology at Newton-Wellesley Hospital as well as Associate Clinical Professor of Medicine at Tufts University School of Medicine. The authors investigated the co-occurrence of autistic traits and GD in adults to assess whether the prevalence began from childhood. In addition, the study provided a comparison between MtF and FtM homosexuals and transsexuals versus non-homosexual population. Using AS quotient (AQ), a total of 91 gender dysphoric adults undertook AQ at gender clinic. In this context, 63 participants were MtF whereas 28 were FtM. The study revealed that 5.5% of FtM exhibited ASD symptoms as compared to clinical diagnosis represented by 2.0% in the general population. However, future studies should assess the prevalence of GD in autistic people.

Gunter Heylens of Ghent University specializes in Psychiatry. The study highlights to establish the occurrence of ASD or autistic features in adults diagnosed with gender dysphoric. The study incorporated two data collection techniques including a responsive social scale in adults (SRS-A) and autism quotient for cross-sectional data. For AQ (N=63) and clinical chart data (n=532). The mean score for SRS-A was higher than the general population. Approximately 5% of Gender Dysphoric patients scored higher than the cut –off as assessed by autism quotient.

Moreover, in thirty-two patients 6% were diagnosed with ASD. Again, the number is high as compared to the normal population. This implies that there is real comorbidity as well as the occurrence of ASD in GD. However, there is a need for a longitudinal study to improve our comprehension of the interplay between GD and ASD (Van Der Miesen, Hurley & De Vries, 2016).

Although some studies do not agree that there is a link between GD and ASD because of lack of evidence, a possibility of a correlation between the two disorders cannot be completely ruled out. To obtain accurate results, children diagnosed with ASD should be offered with further screening, and more direct reporting from the children themselves (not from parents) should be conducted. Furthermore, modifying the questionnaires to determine signs of GD in cases of autism is also highly recommended.

An individual who lacks an opportunity to improve his or her social skills, for example, during the parenting process, may be socially withdrawn and may feel like he or she is socially rejected. Consequently, awkward social behaviors such as poor communication skills, low self-awareness, and low executive function may be observed (Strang et al., 2018). In the detailed examination on ASD in GD children and adolescents, De Vries

et al. (2010) note how communication deficits resulting from ASD may cause low gender awareness, thereby triggering GD. A low executive function may lead to low cognitive thinking and uncertainties in the thinking processes, which may have some effects on gender awareness. In De Vries et al.'s (2010) study, out of 11 children suspected to have ASD ( $n = 108$ ), only 7 children (6.4%) were diagnosed with this disorder. However, the study reported a 1.9% incidence of GD in the children suspected to have ASD, which is an indication of a possible co-occurrence of GD and ASD among children and adolescents.

Although some studies do not agree that there is a link between GD and ASD because of lack of evidence, a possibility of a correlation between the two disorders cannot be completely ruled out. To obtain accurate results, the studies should be made more autonomous to eliminate parental influence on the research findings. The children diagnosed with ASD should be offered further screening, and more direct reporting. Furthermore, modifying the questionnaires to determine signs of GD in cases of autism is also highly recommended. Future researchers should focus on clearing the air on the etiology and possible co-occurrence of GD and ASD. Furthermore, routine assessments and treatments should be done by clinicians to manage these gender related disorders.

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