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## Autism spectrum disorder during COVID-19: A mini-review

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### Abstract

Autism as a neurodevelopmental disorder of the nervous system needs to be diagnosed timely to improve the child's social and verbal skills. Autism is characterized by impairment in the three important areas of social interaction, communication and behavior. About 85% of children with autism spectrum disorder have a limited ability to live independently due to cognitive or adaptive limitations. Many children with autism are unable to regulate and control their emotions, e.g. they may bite someone, hit their head against the wall, destroy things, cry spontaneously in class, and Trichotillomania. The prevalence of autism has recently increased sharply. Epidemiological factors in the examined children were within the normal range and more investigations are needed to obtain the causes of autism. The etiology of autism can be the neurobiological origin, genetics, cerebral glucose metabolism, epilepsy, tuberous sclerosis, embryological origin, birth complications and food allergy. People with autism may experience emotional distress as a result of the changes brought about by the COVID-19 pandemic, and it appears that withdrawal from society reduced social relationships and lack of access to services for children with autism. Patients with autism are more than three times more likely to die following a diagnosis of COVID-19 than others. During the COVID-19 pandemic, autistic patients should be prioritized in care like diabetic patients because they are a vulnerable population. In general, due to being vulnerable, autistic patients are more sensitive to the prevailing conditions during the COVID-19 pandemic and need more emotional support.

**Keywords:** COVID-19, autism spectrum disorder, psychology, autism

### Introduction

Autism is one of the developmental disorders of the nervous system, whose main symptoms include deficits in social interactions, communication, and the presence of repetitive behaviors and limited interests <sup>[1]</sup> and so far, no way has been found to prevent a child from developing autism but the timely diagnosis will improve the disease and the child's social and verbal skills will improve <sup>[2]</sup>. Basically, autism is a neurodevelopmental disorder characterized by impairment in the three important areas of social interaction, communication and behavior. These disorders are considered as "pervasive developmental disorders" in Diagnostic and Statistical Manual of Mental Disorders, Fifth Edition <sup>[3]</sup>. The clinical manifestations of this disease include impairment in communication, social interaction, interests and behavior, unable to create an emotional and warm relationship with others, not being interested in being hugged and kissed, not being interested and attentive to other children, speech full of repetitive words and one-way conversation, not a two-way and interactive conversation, flapping, arm twisting, circling, walking on paws, repetitive movements, sudden attacks of anger, fear for no reason, and may be less active or, on the contrary, hyperactive, restless and inattentive, and sleeping problems <sup>[4]</sup>. About 85% of children with autism spectrum disorder have a limited ability to live independently due to cognitive or adaptive limitations. Also, the presence of cognitive and behavioral disorders, over-active, irritable mood, nutritional problems, learning disabilities, imposing restrictions on family life, separation from friends and family, and the need for care throughout life <sup>[5, 6]</sup>. Autism has a great impact on family members and society. Parents of these children face many problems and difficult situations. Many of them are looking for knowledge, skills and learning issues as appropriate solutions to face the consequences of this disorder in their lives <sup>[7]</sup>.

The prevalence of autism has recently increased sharply <sup>[8]</sup>. Many of children with autism are unable to regulate and control their emotions, e.g. they may bite someone, hit their head against the wall, destroy things, cry spontaneously in class, and Trichotillomania <sup>[9]</sup>.

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For the Mentioned reasons, children with autism must be treated as soon as possible. Choosing and applying a specific type of intervention for each child with autism spectrum disorder depends on the mental age, severity of autism and the child's environment. Also, factors related to the person, interaction and environment affect the child's ability to regulate himself. In addition, the prevalence of autism is higher in girls compared to boys. Also, this rate of prevalence does not depend on age and there is a possibility of symptoms of this disorder at any age<sup>[11]</sup>.

Apart from the symptoms of autism, according to a study by Bazrafshan and Sadeghi on children with autism, the age of 54.3% of mothers at the time of the delivery was between 20-29 years and 32.1% of fathers was between 30-34 years; 96.4% of parents did not use tobacco or alcohol during pregnancy; 66.5% of the children were born through cesarean section; the weight of 70.8% of the children was between 2,500 and 3,999 grams. 75% of the mothers were without pregnancy complications during pregnancy and the duration of pregnancy of 51.8% of the mothers was 37-38 weeks, so the epidemiological factors in the examined children were within the normal range and more investigations are needed to obtain the causes of this disease<sup>[12]</sup>.

According to a comprehensive study by Karim-Zadeh, the etiology of autism can be "Neurobiological origin", neurobiological research shows that dopamine and serotonin systems are also involved in the pathogenesis of autism; "Genetics", the role of genetic factors has been determined by studies on the X chromosome as well as monozygotic twins; "Investigating cerebral glucose metabolism in early autism", "epilepsy", "Tuberous sclerosis", "embryological origin", "birth complications", "food allergy" and "more head circumference"<sup>[13]</sup>.

Currently, people with autism may experience emotional distress as a result of the changes brought about by the COVID-19 pandemic, and it appears that reduced social relationships, withdrawal from society, and lack of access to services for children with autism. Educational and rehabilitation activities can have a significant relationship with the increase in symptoms of the disorder in these children<sup>[14]</sup>. People with developmental disabilities such as autism are more than three times more likely to die following a diagnosis of COVID-19 than others, and people with intellectual disabilities are more likely to have other health problems at the same time that put them at risk of COVID-19 infection such as heart disease and obesity<sup>[15]</sup>.

The COVID-19 pandemic shows potentially important psychological impact not only on children with neurodevelopmental disorders but on their caregivers as well<sup>[16]</sup>. Children, adolescents, and adults with autism spectrum disorder are a vulnerable population affected by stay-at-home orders, nonessential service closures, and social distancing standards<sup>[17]</sup>. We know that COVID-19 has negatively affected almost all aspects of society and has led to almost universal hardship and stress<sup>[18, 19]</sup>. The epidemic of infectious diseases like COVID-19 is often accompanied by adverse physical (all organs), psychological and behavioural reactions such as increased anxiety and depression, insomnia, decreased sense of security, increased Alcohol and tobacco use, unemployment and food insecurity became more complicated<sup>[20-26]</sup>.

During the COVID-19 pandemic, autistic patients should be prioritized in care like diabetic patients because they are a

vulnerable population. The medical community like behavioral specialists and healthcare providers must support families with autism because prolonged social isolation affects them more adversely, communities should consider allowing children with autism to be prioritized when it is safe to return to school. Schools must provide resources and training to serve children with autism in ways that can adapt to the challenges of an epidemic<sup>[27, 28]</sup>. In a study, the authors suggested to considering separate ward for autism patients during COVID-19<sup>[29]</sup>. In general, due to being vulnerable, autistic patients are more sensitive to the prevailing conditions during the COVID-19 pandemic and need more support. Information about autism after COVID-19 was not found, this may reject this finding in the future. It is necessary to pay attention to the emotions of autistic patients and help them take care of themselves during the COVID-19 pandemic.

### Conclusion

People with autism may experience emotional distress following the COVID-19 pandemic, and it seems that withdrawal from society reduced social relationships and lack of access to services for children with autism. Autistic patients are more than three times more likely to die after being diagnosed with COVID-19 than others. During the COVID-19 pandemic, autistic patients should be given priority care, as should diabetic patients, because they are a vulnerable population. Totally, autistic patients are more sensitive to the prevailing conditions during the COVID-19 pandemic due to their vulnerability and need more emotional support.

### References

1. Baird G, Cass H, Slonims V. Diagnosis of autism. *Bmj*. 2003;327(7413):488-93.
2. Newschaffer CJ, Croen LA, Daniels J, Giarelli E, Grether JK, Levy SE, *et al*. The epidemiology of autism spectrum disorders. *Annu. Rev. Public Health*. 2007;28:235-58.
3. Association AP. Diagnostic and statistical manual of mental disorders (DSM-5®): American Psychiatric Pub; c2013.
4. Gleberzon BJ, Rosenberg-Gleberzon AL. On autism: Its prevalence, diagnosis, causes, and treatment. *Topics in Clinical Chiropractic*. 2001;8(4):42-58.
5. Gardner LM, Campbell JM, Bush AJ, Murphy L. Comparing Behavioural Profiles for Autism Spectrum Disorders and Intellectual Disabilities Using the BASC-2 Parent Rating Scales– Preschool Form. *Journal of Psychological Assessment*; c2017, 0734282916689438.
6. Lee LC, Harrington RA, Louie BB, Newschaffer CJ. Children with autism: Quality of life and parental concerns. *Journal of autism and developmental disorders*. 2008;38(6):1147-60.
7. Benson PR. Coping, distress, and wellbeing in mothers of children with autism. *Research in Autism Spectrum Disorders*. 2010;4(2):217-28.
8. Chiarotti F, Venerosi A. Epidemiology of autism spectrum disorders: a review of worldwide prevalence estimates since 2014. *Brain sciences*. 2020;10(5):274.
9. Cai RY, Richdale AL, Uljarevic M, Dissanayake C, Samson AC. Emotion regulation in autism spectrum disorder: Where we are and where we need to go.

- Autism Res. 2018;11(7):962-78.
10. Asadi S, Sourtiji H. Interventions for the treatment of self-regulation disorders in children with autism: A narrative review. *Journal of Isfahan Medical School.* 2020;38(590):655-63.
  11. Yavari A, Zamanian M, Panahian M, Valizadeh A. Prevalence of Autism Spectrum Disorder with High-Functioning among Children Aged 7–12 Years. *Depiction of Health.* 2022;13(2):165-74.
  12. Bazrafshan A, Sadeghi L. A Study of Effective Demographic Factors in Autism Spectrum Disorder. *Sadra Medical Journal.* 2021;9(3):231-40.
  13. Karim-Zadeh P. Recent Finding about Aetiology of autism. *Archives of Rehabilitation.* 2000;1(2):58-65.
  14. Rahimi ZG, Tayebi Z, Mashhadi A. Symptoms of children with autism before and after Quaid-19 disease quarantine: A comparative study. *Medical journal of mashhad university of medical sciences;* c2021, 64(2).
  15. Gleason J, Ross W, Fossi A, Blonsky H, Tobias J, Stephens M. The devastating impact of Covid-19 on individuals with intellectual disabilities in the United States. *NEJM Catalyst Innovations in Care Delivery.* 2021, 2(2).
  16. Amorim R, Catarino S, Miragaia P, Ferreras C, Viana V, Guardiano M. The impact of COVID-19 on children with autism spectrum disorder. *Rev Neurol.* 2020;71(8):285-291.
  17. Baweja R, Brown SL, Edwards EM, Murray MJ. COVID-19 pandemic and impact on patients with autism spectrum disorder. *Journal of Autism and Developmental Disorders.* 2021;10:1-0.
  18. Ammerman BA, Burke TA, Jacobucci R, McClure K. Preliminary investigation of the association between COVID-19 and suicidal thoughts and behaviors in the U.S. *J Psychiatr Res.* 2021;134:32-38.
  19. Haleem A, Javaid M, Vaishya R. Effects of COVID-19 pandemic in daily life. *Current medicine research and practice.* 2020;10(2):78.
  20. Besharat SAN, Dadashzadeh N, Talaie R, Mousavi SS, Barzegar A, Tavana S, *et al.* Clinical and Demographic Characteristics of Patients with COVID-19 Who Died in Modarres Hospital. *Open Access Maced J Med Sci.* 2020;8(T1):144-9.
  21. Tabatabaai SA, Soltani P, Khanbabaee G, Sharma D. SARS Coronavirus 2, Severe Acute Respiratory Syndrome, and Middle East Respiratory Syndrome in Children: A Review on Epidemiology, Clinical Presentation, and Diagnosis. *Arch Paediatric Infect Dis.* 8(4):e104860.
  22. Rahimi MM, Jahantabi E, Lotfi B, Forouzes M, Valizadeh R, Farshid S. Renal and liver injury following the treatment of COVID-19 by remdesivir. *J Nephropathol.* 2021;10(2):e10.
  23. Valizadeh R, Dadashzadeh N, Zakeri R, James Kellner S, Rahimi MM. Drug therapy in hospitalized patients with very severe symptoms following COVID-19. *J Nephropharmacol.* 2020;9(2):e21.
  24. Lotfi B, Farshid S, Dadashzadeh N, Valizadeh R, Rahimi MM. Is Coronavirus Disease 2019 (COVID-19) Associated with Renal Involvement? A Review of Century Infection. *Jundishapur J Microbial.* 2020;13(4):e102899.
  25. Dadashzadeh N, Farshid S, Valizadeh R, Nanbakhsh M, Mohammad Rahimi M. Acute respiratory distress syndrome in COVID-19. *Immunopathol Persa.* 2020;6(2):e16.
  26. Barzegar A, Ghadipasha M, Rezaei N, Forouzes M. New hope for treatment of respiratory involvement following COVID-19 by bromhexine. *J Nephropharmacol.* 2021;10(2):e11.
  27. Ameis SH, Lai MC, Mulsant BH, Szatmari P. Coping, fostering resilience, and driving care innovation for autistic people and their families during the COVID-19 pandemic and beyond. *Molecular Autism.* 2020;11(1):1-9.
  28. Bitan DT, Krieger I, Weinstein O. Challenges of the COVID-19 pandemic among individuals with autism spectrum disorder. *JAMA psychiatry;* c2022.
  29. Nollace L, Cravero C, Abbou A, Mazda-Walter B, Bleibtreu A, Pereirra N, *et al.* Autism and COVID-19: A case series in a neurodevelopmental unit. *Journal of clinical medicine.* 2020;9(9):2937.