

# Autism spectrum disorder national database reveals a cumulative incidence of 2.75%

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Analysis using a national medical database revealed that the cumulative incidence of autism spectrum disorders (ASD) in children born in 2009-2014 was 2.75% by the age of five. A research group led by

Associate Professor Daimei Sasayama and Professor Hideo Honda of the Department of Child and Adolescent Development Psychiatry, Shinshu University School of Medicine, used a national medical database to analyze autism spectrum disorders in Japan. It was reported that the cumulative incidence showed an increasing trend for each year of birth, and that there were regional differences.

This cumulative incidence of ASD is the highest in the world based on [medical diagnosis](#), suggesting high diagnostic sensitivity in Japan. The proportion of people diagnosed with autism [spectrum disorders](#) has increased globally over the last 20 years, with a 2014 US survey reporting a prevalence of 1.68% in 8-year-olds. In addition, a regional cohort study of children's mental development and psychiatry at Shinshu University School of Medicine reported that 3.1% of children had been diagnosed with autism spectrum disorders by school age. Improving screening accuracy is one of the main reasons why more and more people are being diagnosed with autism spectrum disorders. In order to investigate the actual condition of diagnosis of [autism spectrum disorder](#) in Japan, the group investigated the cumulative incidence of autism spectrum disorder nationwide and the cumulative incidence by prefecture using National Database (NDB), which aggregates medical data from all over the country.

For children born from 2009-2016 and diagnosed with autism spectrum disorder between 2009 and 2019, information on gender, year and age at the time of diagnosis, and the prefecture where the diagnosis was made were extracted from NDB. Cumulative incidence was calculated by dividing the number of diagnoses by the number of births each year.

Of the children born from 2009-2016, 313,353 (236,386 boys, 76,967 girls) were diagnosed with autism spectrum disorder between 2009 and 2019. The lifetime cumulative incidence of autism spectrum disorders at age 5 in children born between 2009 and 2014 was 2.75%. The

cumulative incidence tended to increase with each year of birth. By prefecture, the cumulative lifetime incidence of autism spectrum disorders at age 5 ranged from 0.9-7.9% (median 2.4%).

This study published in the journal *JAMA Network Open* reported that the cumulative incidence of autism spectrum disorders in Japan is high worldwide. It is thought that the nationwide [increasing trend](#) is influenced by the recent increase in awareness of autism spectrum disorders. On the other hand, since there are large [regional differences](#) in the incidence rate, it is possible that factors such as differences in access to medical care and support also affect the incidence rate. The results of this study show that there is an increasing need to build a support system for autism spectrum disorders. Accurately capturing changes in the frequency of autism spectrum disorders is important both for the realization of an effective support system and for studying the risk factors and etiology of autism spectrum disorders. The research group will continue to investigate trends in the incidence of [autism](#) spectrum disorders in Japan and around the world.

**More information:** Daimei Sasayama et al, Trends in Autism Spectrum Disorder Diagnoses in Japan, 2009 to 2019, *JAMA Network Open* (2021). [DOI: 10.1001/jamanetworkopen.2021.9234](https://doi.org/10.1001/jamanetworkopen.2021.9234)

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