

Study examines psychotropic medication use in children, teens with Down syndrome

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A new study gives insight into the mental health of children and teens with Down syndrome and the behavioral medications that medical caregivers sometimes prescribe for them.

The Cincinnati Children's Hospital Medical Center study shows that teens and [young adults](#) between the ages of 12 and 21 were significantly more likely to be on psychotropic medications than [children](#) 5 to 11 years old. Among children less than 12, the odds of being on a [psychotropic medication](#) increased with [age](#) for all classes of medications studied. For 12 to 18 year olds, the odds of being on a stimulant significantly decreased with age, while the odds of being on a medication from other classes of drugs remained stable over time.

"Variations in medication use over time in children and teens with Down syndrome suggest that the type and severity of neurobehavioral problems likely change over time, too," says Julia Anixt, MD, a developmental pediatrician at Cincinnati Children's and a co-author of the study.

The study is published online in the *Journal of Developmental & Behavioral Pediatrics*.

In the younger age group, the odds of being on a stimulant increased 1.37 times for each additional year of age from 5 to 11. This means that a 9 year old would be 3.5 times as likely to be on a stimulant medication as a 5 year old. These drugs are used as first-line therapy for symptoms of attention-deficit hyperactivity disorder (ADHD). This increase in use

"may reflect increasing impairment in functioning due to ADHD symptoms as children approach 11 years. After that age, the use of stimulants declined with each increasing year."

The researchers found a trend of increasing use of selective serotonin reuptake inhibitors (SSRIs), a medication class commonly used to treat symptoms of anxiety and depression, as children and teens age. Declining behavioral problems (outwardly disruptive behaviors) and increasing emotional problems, such as depression and anxiety, with age are also common in typically developing children and those with intellectual disability.

Use of atypical antipsychotics (AAP) peaked in the age range of 11 to 14, which is an age range that previous studies have identified as consistent with a peak in challenging behaviors in children with Down syndrome. AAPs are approved for the treatment of irritability and aggression in children with autism spectrum disorders but are often prescribed "off-label" to target problem behaviors in children with disruptive behavior disorder and developmental disabilities. The study found that the rates of AAP use in boys was higher than in girls for all ages.

The study included data on 832 children taken between 2010 and 2013. All were patients at Cincinnati Children's. The division of Developmental and Behavioral Pediatrics at Cincinnati Children's is home to The Thomas Center, a specialized clinical program for the care of children with Down syndrome.

"Providers must be more systematic in the screening, diagnosis and management of [mental health](#) conditions in children and [teens](#) with Down syndrome," says Dr. Anixt. "Eventually, the American Academy of Pediatrics health guidelines for children with Down syndrome could be expanded beyond physical health conditions to include treating

behavioral and mental [health conditions](#) - thus improving the long-term outcomes and quality of life of individuals with Down syndrome."

Provided by Cincinnati Children's Hospital Medical Center

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