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Study raises questions about diagnosis, medical treatment of ADHD

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A new UCLA study shows that only about half of children diagnosed with attention-deficit hyperactivity disorder, or ADHD, exhibit the cognitive defects commonly associated with the condition.

The study also found that in populations where medication is rarely prescribed to treat ADHD, the prevalence and symptoms of the disorder are roughly equivalent to populations in which medication is widely used.

The results of the first large, longitudinal study of adolescents and ADHD, conducted among the population of northern Finland, appeared in several papers in a special section of the Journal of the American Academy of Child and Adolescent Psychiatry published in December and are currently online.

ADHD is a common, chronic behavioral disorder characterized by inattention, hyperactivity and impulsivity that is thought to affect some 5 to 10 percent of school-age children worldwide.

In adolescence, ADHD is generally associated with cognitive deficits, particularly with working memory and inhibition, which have been linked to overall intelligence and academic achievement, according to UCLA psychiatry professor Susan Smalley, who headed the research. Interestingly, the study showed that these deficits are only present in about half of adolescents diagnosed with ADHD.

Part of the explanation may lie in the common method for diagnosing the disorder. The researchers found that ADHD is an extreme on a normal continuum of behavior that varies in the population, much like height, weight or IQ. Its diagnosis, and thus its prevalence, is defined by where health professionals "draw the line" on this continuum, based on the severity of the symptoms and overall impairment.

However, children with cognitive deficits do not show increased levels of inattention or hyperactivity when compared with other children diagnosed with ADHD, the study found, suggesting that behavior-rating scales alone are not sensitive enough to differentiate between the two groups. Additional psychological testing is recommended to confirm the presence of cognitive impairments.

Researchers also found surprising results regarding the effectiveness of medicine in treating ADHD. In contrast to children in United States, youth in northern Finland are rarely treated with medicine for ADHD, yet the 'look' of the disorder — its prevalence, symptoms, psychiatric comorbidity and cognition — is relatively the same as in the U.S., where stimulant medication is widely used. The researchers point out that this raises important issues about the efficacy of the current treatments of ADHD in dealing with the disorder's long-term problems.

"We know medication is very effective in the short-term," said Smalley, who authored or co-authored each of the papers. "But the study raises important questions concerning the long-term efficacy of ADHD treatment. Here we have two different cultures and two different approaches to treatment, yet at the time of adolescence, there are few differences in the presentation and problems associated with ADHD."

Other findings from the wide-ranging study include:

-- Further confirmation that ADHD symptoms do change with age:

Hyperactivity and impulsivity decrease with age, while inattention increasingly predominates. In fact, about two-thirds of children with ADHD continue to exhibit significant levels of inattentiveness and impairment into adolescence.

-- ADHD is associated with increased rates of other psychiatric problems. Most prominent in adolescence are depression; anxiety; oppositional behaviors, such as arguing, losing one's temper and being easily annoyed; and conduct disorders like vandalism and truancy. Surprisingly, post-traumatic stress disorder is significantly elevated among adolescents with ADHD, compared with non-ADHD youth. The prevalence of these co-occurring disorders is comparable to that found in other ADHD populations worldwide.

-- Two genes, labeled DBH and DRD2, involved in the regulation of dopamine — a neurotransmitter involved in attention, motivation and emotion — have also been associated with ADHD in the population of northern Finland. Although the researchers involved say they likely account for very little of the genetic variation underlying ADHD, the findings further support the involvement of the dopamine pathway in the etiology of the disorder.

"This set of articles brings to light the necessity of engaging in new ways of thinking about ADHD," said Smalley, who is also a member of the Center for Neurobehavioral Genetics at UCLA. "Certainly it is a valid disorder in terms of its diagnosis; there are relatively similar prevalences around the world. But the predisposition to ADHD is a normal distribution in attention and activity level, much like diabetes and glucose tolerance, or dyslexia and reading disability.

"The continuous nature of liability to ADHD requires that we examine more carefully what environmental pressures may be leading to impairment, instead of broadening our diagnostic classifications even

further," she said.

The study started in 1986, when researchers from Imperial College, London, and Finland's University of Oulu began studying 9,432 children in northern Finland. They tracked the children from the early fetal period to adolescence (age 16 to 18). UCLA researchers then joined in the effort to examine the adolescents for ADHD behaviors, using a standard screening survey and diagnostic criteria. Among the 6,622 respondents to the survey, a subset of 457 likely cases and controls were evaluated for ADHD and other psychiatric disorders. The estimated prevalence of ADHD among these adolescents was 8.5 percent, with a male-female ratio of 5.7 to 1.

Source: University of California - Los Angeles

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