Researchers from 14 laboratories around the world found statistical proof that a genetic link exists between parents and children diagnosed with either inattentive or combined ADHD. Before working together, the researchers already knew that ADHD has a genetic component from previous research on families, twins and adopted children. They also knew that dopamine-blocking medications work for 70% of people diagnosed with ADHD, and that several receptors might be involved. Their goal was to confirm an association between ADHD and the dopamine D5 receptor gene.

RARE INTERNATIONAL COOPERATION

The researchers began by recruiting participants from members of the ADHD collaborative network, which links researchers around the world. Centres represented in the study contributed data and at least three DNA samples from ADHD-diagnosed children and one or both parents to ensure consistency.

“This study is unique because it pulls together data from multiple settings, multiple families and multiple laboratories,” says Dr. Russell Schachar, a senior scientist from the Department of Psychiatry at the Hospital for Sick Children in Toronto. “Politically, it’s difficult to get scientists to contribute to that kind of study. I think that there have now been 16 or 17 risk factors identified in ADHD, and half of them have been identified with researcher Cathy Barr’s laboratory, which is producing some of the world’s best molecular research. At a scientific level, what she’s been able to do, the kind of people she’s been able to bring around her is impressive.”

“RARE INTERNATIONAL COOPERATION”

Parents and teachers are frequently blamed as they struggle to cope with children who fail classes, perform badly on standardized tests or make few friends. Blame continues even after a child has been diagnosed with attention-deficit/hyperactivity disorder (ADHD), because the genetic nature of the disease is little recognized by the general public.

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In the end, it was the large study size that made results possible. Researchers compared the genetic makeup of 3,072 parents with that of 1,980 children in a statistical modelling process known as meta-analysis. They discovered a much higher incidence of a specific marker in both the diagnosed children and their parents than expected, thereby confirming the genetic region involved in ADHD.

“What a relief for these children’s parents who are constantly being judged”

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