Research Roundup

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analyzed genome-wide data from more than 60,000 people and found processes through which risk genes cause problems across diagnostic categories. In particular, disorders that first appear in young adulthood share the same risk gene pathways. Risk genes for schizophrenia, bipolar disorder, and depression work through an epigenetic mechanism called histone methylation, which regulates the on-off switch of genes in response to environment and experience. Researchers suggested that prenatal disruption of these pathways could have adverse effects on brain development. Risk genes also work through pathways in the immune system and the communication between brain cells, the researchers said. Finally, genetic effects on histone methylation were more prominent in bipolar disorder, and neuronal communication effects may more strongly affect schizophrenia. [Network and Pathway Analysis Subgroup of the Psychiatric Genomics Consortium. *Nat Neurosci* 2015 Feb; 18(2):199–209. doi: 10.1038/nn.3922. Epub 2015 Jan 19.]

FASD cases missed in foster care and adopted children

A clinical sample of children referred to a mental health center found that the vast majority of those with fetal alcohol spectrum disorder (FASD) had never been previously diagnosed or had been misdiagnosed. All of the children in the sample were in foster care or had been adopted. Of the 156 children and adolescents who met criteria for an FASD diagnosis, 125 had never been diagnosed as affected by prenatal alcohol exposure — a missed diagnosis rate of 80.1 percent. In addition, 10 children had FASD diagnoses, but they were incorrect. The remaining 21 (13.5 percent) FASD diagnoses remained the same. In addition, there were changes in mental health diagnoses, learning disorders, communication disorders, and intellectual disability — all objective signs of neurocognitive damage — that had not been recognized in many of the children with attention-deficit hyperactivity disorder. "These high rates of missed diagnoses and misdiagnosis have significant implications for intervention and therapeutic services," the researchers concluded. "Although FASD have long been recognized as a leading cause of intellectual disabilities, behavior problems, learning disabilities, and co-occurring mental health disorders, children and adolescents who have been affected by prenatal alcohol exposure often go undiagnosed or are misdiagnosed. Pediatricians and other children's health care providers have the opportunity to screen children and youth in their practices for FASD and ensure that affected individuals receive the targeted range of services they may need." [Chasnoff IJ, Wells AM, King L. Misdiagnosis and missed diagnoses in foster and adopted children with prenatal alcohol exposure. *Pediatrics* 2015 Feb; 135(2):264–270. doi: 10.1542/peds.2014-2171. Epub 2015 Jan 12. E-mail: ichasnoff@cr-triangle.org.]

From the FDA

✓ Measles vaccination essential: Hamburg's outgoing words

Margaret A. Hamburg, M.D., outgoing commissioner of the Food and Drug Administration, had some strong final words for American consumers: if you or your children have not been vaccinated (or had measles), vaccination now is essential.

"In recent weeks we've seen an alarming outbreak of measles; a highly contagious and serious virus, especially in babies and young children who have not been vaccinated," she wrote in a February 10 blog post published on the FDA website. "This outbreak is particularly disturbing because measles was effectively eliminated from the United States in 2000 thanks to nearly universal vaccination, the single best way to prevent the spread of this disease."

"Vaccination works with the body's natural defenses to help it safely develop immunity to the measles. When more people are vaccinated, there are fewer opportunities for the disease to spread. A community generally needs more than 90% of its members to be immunized against the virus in order to protect those who can't be. Today, there are two safe and effective FDA-approved vaccines. More than 95% of the people who receive a single dose will develop immunity. And a second dose conveys immunity to nearly everyone who did not respond to the first dose. Simply put, these vaccines are safe and effective, and serious side effects are rare."

Last fall, the Centers for Disease Control and Prevention (CDC) released a reminder that there is no evidence connecting vaccines and autism, noting that a review by the Institute of Medicine (IOM) concluded that "the evidence favors rejection of a causal relationship between thimerosal-containing vaccines and autism." The CDC notice goes on to say, "CDC supports the IOM conclusion that there is no relationship between vaccines and autism rates in children. Besides thimerosal, some people have had concerns about other vaccine ingredients in relation to autism as well. However, no links have been found between any vaccine ingredients and autism." For the CDC notice, go to http://www.cdc.gov/vaccinesafety/concerns/autism.

To return to Hamburg's blog post: "Before the first measles vaccine was approved in 1963, hundreds died from the disease each year. Others developed pneumonia, lifelong brain damage or deafness. Let's not return to these grim statistics. There is no shortage of measles vaccine. It should be used by everyone who has not been vaccinated to prevent measles and the potentially tragic consequences of the disease."

For Hamburg's blog post, go to http://blogs.fda.gov/FDAvoice/index.php. ■