Autism and the MMR Vaccine

Information about the possible relationship between autism and vaccines is not directly addressed in the module, but it’s provided here in case questions arise in class.

Does the measles-mumps-rubella (MMR) vaccine cause autism?

- In 1998, a study of autistic children raised the question of a connection between the MMR vaccine and autism. The study was very small, involving only 12 children—too few cases to make any generalizations about the causes of autism. In addition, the researchers suggested that the MMR vaccination caused bowel problems in the children, which then led to autism. However, in some of the children studied, symptoms of autism appeared before symptoms of bowel disease. In 2004, 10 of the 13 authors of the 1998 study retracted the study’s interpretation. The authors stated that the data were not able to establish a causal link between the MMR vaccine and autism.

- Other larger studies have found no relationship between the MMR vaccine and autism. For example, a study of 498 children with autism in the United Kingdom found that the percentage of children with autism who received the MMR vaccine was the same as the percentage of unaffected children in the region who received the vaccine. The study also found that there was no difference in the age of diagnosis of autism in vaccinated and unvaccinated children.

- Much speculation has surrounded the use of a mercury-containing preservative, thimerosal, in vaccines. However, since the preservative was removed from all but a few vaccines in 2001, the number of cases of autism has continued to rise, indicating that the preservative is not the cause of autism. In 2004, a report by the Institute of Medicine concluded that there is no association between autism and the MMR vaccine or any vaccines that contain thimerosal as a preservative.

- It is possible, however, that certain individuals with pre-existing conditions may have negative reactions to vaccines such as the MMR. In 2008, the government compensated the parents of a child with a rare mitochondrial disorder who developed autism after vaccination. Most children with autism do not have mitochondrial disorders, making this a rare event. The director of the Centers for Disease Control and Prevention clarified that “the government has made absolutely no statement about indicating that vaccines are the cause of autism, as this would be a complete mischaracterization of any of the science that we have at our disposal today” (CDC 2008b).

Sources


