

**Measles-mumps-rubella vaccination timing and autism among young
African American boys:
A reanalysis of CDC data**

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- 1) "Autism incidence has risen dramatically over the past two decades and it has recently been reported that one in sixty-eight children have this disorder."
- 2) The purpose of this study is to investigate the effect of the age at which children got their first Measles-Mumps-Rubella (MMR) vaccine on autism incidence in Atlanta, by doing a reanalysis of prior data from the US Centers for Disease Control and Protection (CDC). The study used a cohort of 624 cases and 1824 controls.
- 3) Since 1999, there has been evidence linking the measles-mumps-rubella (MMR) vaccine with an increased risk of autism.
- 4) "There was a statistically significant increase in autism cases specifically among African American males who received the first MMR prior to 36 months of age." [increased relative risks by 226%]
- 5) The increased (relative) risk for autism cases among African American males who received the first MMR prior to 24 months of age was 73%.
- 6) "The present study provides new epidemiologic evidence showing that African American males receiving the MMR vaccine prior to 24 months of age or 36 months of age are more likely to receive an autism diagnosis."
- 7) "Girls did not show any relationship between autism and MMR timing at any age group studied."
- 8) "The results show a strong relationship between child age at the administration of the first MMR and autism incidence exclusively for African American boys which could indicate a role of the vaccine in the etiology of autism within this population group."
- 9) There is the "possibility that the MMR vaccine may be causally linked to autism in African American males."
- 10) "The prevalence of autism in African Americans is nearly 25% higher than that of whites." "This could be due to issues regarding vitamin D status with African Americans as it has been estimated that vitamin D sufficiency among whites is between 30-60% but is only 5-10% among African Americans."

- 11) Low vitamin D status may increase the prevalence of autism via disruption of the production of serotonin in the brain.
- 12) Vitamin D has a multitude of physiological functions:
- A)) Vitamin D receptors have been found in many different tissues including the small intestine, colon, osteoblasts, activated T and B lymphocytes, islet cells and most organs in the body.
 - B)) Vitamin D is implicated in many important physiological processes including modulation of activated T and B lymphocyte function.
 - C)) Vitamin D prevents inflammatory bowel disease.
 - D)) Lower vitamin D status African American females are more susceptible to lupus.
- 13) A 2010 study showed that the Hepatitis B vaccine between 1997 - 2002 (when it contained the mercury compound thimerosal) increased the risk (relative) of autism by 453% in black boys and 87% in white boys.
- 14) "The present study provides new evidence of a statistically significant relationship between the timing of the first MMR vaccine and autism incidence in African American males."
- 15) "Routine childhood vaccination is considered an important public health tool in reducing the morbidity and mortality associated with infectious diseases. However, consideration should be made in the current United States vaccination schedule for genetic subpopulations that may be associated with vaccine adverse events."

COMMENTS FROM DAN MURPHY

An interesting perspective from this study is that vaccines are more likely to be associated with an increased incidence of autism in children with low levels of vitamin D. We have reviewed 2 prior articles making the same observation:

Article Review 18-10:

Autism and Vitamin D; Medical Hypotheses; 2008.

Article Review 41-11:

On the Aetiology of Autism; Acta Paediatrica; 2010.