

Study finds Tdap vaccination for pregnant women does not increase risk of autism

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A Kaiser Permanente study of more than 80,000 children born over a 4-year period showed that the prenatal Tdap vaccination (tetanus, diphtheria, acellular pertussis) was not associated with increased risk of autism spectrum disorder in children. The study was published today in *Pediatrics*.

"Infants are at the highest risk of hospitalization and death among any population subgroup after contracting a pertussis infection, a highly contagious respiratory disease also known as the whooping cough," said Tracy A. Becerra-Culqui, Ph.D., a post-doctoral research fellow with Kaiser Permanente Southern California's Department of Research & Evaluation and lead author of the study. "With waning immunity against pertussis in the United States, it has become very important for [pregnant women](#) to be immunized against pertussis. It is an immunity they pass on to their unborn baby."

"Pregnant women can be reassured by this study that there is no indication of an increased risk of [autism spectrum disorder](#) in children after being exposed prenatally to the Tdap vaccine," Becerra-Culqui added.

The Advisory Committee on Immunization Practices, which provides guidance on the use of vaccines for the United States, recommends pregnant women receive the Tdap vaccine to prevent pertussis infection, but some women still hesitate.

Kaiser Permanente researchers were able to comprehensively study the hypothesized link between Tdap and autism because of the organization's large and diverse patient population. In Southern California, Kaiser Permanente provides health care in 15 hospitals and about 220 medical offices to approximately 4.4 million members who are broadly representative of the area's population. Recommended vaccinations are free to all members.

This retrospective cohort study looked at the autism diagnosis for children born at Kaiser Permanente hospitals in Southern California between Jan. 1, 2011 and Dec. 31, 2014.

The study included 81,993 children and found that:

- Prenatal Tdap vaccination coverage ranged from 26 percent for the 2012 birth cohort to 79 percent for the 2014 birth cohort.
- The autism spectrum disorder incidence rate in children was 1.5 percent in the maternal Tdap vaccinated group and 1.8 percent in the maternal unvaccinated group, comparable to autism rates in the United States (1.7 percent).
- Analyses of the data extracted from electronic health records showed that Tdap vaccination during pregnancy was not associated with increased autism spectrum disorder risk in children.
- Results were consistent across study birth years and among first-born children.

"The link between vaccination and development of autism has been refuted by many rigorous scientific investigations. Unfortunately, the misconceptions still generate concerns," said the paper's senior author, Hung Fu Tseng, Ph.D., of the Department of Research & Evaluation.

"Given the increasing practice to vaccinate pregnant women with Tdap

[vaccine](#), it was important to address the concern of a link between maternal vaccination and subsequent development of autism spectrum disorder in children," he added. "We hope that our findings reassure parents that Tdap vaccination during pregnancy was not associated with [autism](#) in [children](#)."

More information: Ousseney Zerbo et al, Vaccination Patterns in Children After Autism Spectrum Disorder Diagnosis and in Their Younger Siblings, *JAMA Pediatrics* (2018). [DOI: 10.1001/jamapediatrics.2018.0082](#)

Provided by Kaiser Permanente

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