

## Tdap Vaccination During Pregnancy Prevents Infant Pertussis

Infants whose mothers received prenatal tetanus, diphtheria, acellular pertussis (Tdap) vaccination are less likely to develop pertussis before 18 months of age.

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August 27, 2018 – Infants born to mothers who received prenatal Tdap vaccination had a 43% lower rate of pertussis compared with those whose mothers did not receive the vaccine.

Sylvia Becker-Dreps, MD, MPH, with the Departments of Family Medicine and Epidemiology, University of North Carolina at Chapel Hill, and colleagues reported their findings in the June 14, 2018 issue of *American Journal of Preventive Medicine*.

Over the past two decades, the incidence of pertussis has been increasing. Pertussis, which is caused by *Bordetella pertussis*, is particularly dangerous to infants, who experience higher rates of complications from the disease. The US Centers for Disease Control and Prevention has issued multiple guideline revisions over the past several years that are aimed at decreasing pertussis risk among infants. Currently, it is recommended that pregnant women receive one dose of Tdap between 27 and 36 weeks' gestation. However, it remains controversial whether second trimester Tdap vaccination would offer superior protection to infants compared with third trimester vaccination.

A cohort of 675,167 privately insured, pregnant women who gave birth from 2010 to 2014 was used for the study. Insurance records were reviewed in 2016 and 2017 to determine Tdap receipt by mothers and evidence of pertussis among offspring until the age of 18 months. The incidence of pertussis was compared between infants of vaccinated and unvaccinated mothers.

Infants whose mothers received prenatal Tdap vaccination had a 43% (hazard ratio [HR], 0.57; 95% confidence interval [CI], 0.35–0.92) lower incidence of pertussis during the first 18 months of life compared with those whose mothers were unvaccinated. Prenatal Tdap vaccination was also associated with a 68% reduction in inpatient pertussis (HR, 0.32; 95% CI, 0.11–0.91).

Infants whose mothers received Tdap at 27 weeks gestation or later had lower rates of pertussis (HR, 0.42; 95% CI, 0.23–0.78) and inpatient pertussis (HR, 0.30; 95% CI, 0.09–0.97) up to age 18 months compared with those whose mothers were unvaccinated. However, infants of mothers who received Tdap before 27 weeks gestation did not differ from children of unvaccinated mothers with respect to pertussis risk (HR, 1.10; 95% CI, 0.54–2.25).

“Prenatal Tdap provided a substantial reduction in infant pertussis during the period of life with the highest pertussis burden,” concluded Dr. Becker-Dreps and colleagues. However, the “data do not provide evidence to support a change in the current recommendation for optimal timing of immunization,” added the authors.

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