

Maternal vaccination against influenza associated with protection for infants

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How long does the protection from a mother's immunization against influenza during pregnancy last for infants after they are born?

Marta C. Nunes, Ph.D., of the University of the Witwatersrand, Johannesburg, South Africa, and coauthors sought to answer that questions in an article published online by *JAMA Pediatrics*. It's an important question because the incidence of influenza among [infants](#) is high and illness can cause hospitalizations and death. Also, current vaccines don't work well in infants less than 6 months of age and are not licensed for use in that age group.

Infants born to women who participated in a [randomized clinical trial](#) of trivalent inactivated influenza vaccine (IIV3) when they were pregnant were followed up to determine the vaccine's efficacy against influenza and infant antibody levels during their first six months of life.

Analysis of the vaccine's efficacy included 1,026 infants born to women immunized with IIV3 and 1,023 infants born to women given placebo. The

vaccine's efficacy against influenza illness was highest when infants were 8 weeks or younger at 85.6 percent but decreased as the infants grew to 25.5 percent among infants 8 to 16 weeks and to 30.3 percent among infants 16 to 24 weeks, according to the results.

Additionally, in a subset of infants, the percentage of infants with antibodies at or above a certain level dropped from 56 percent in the first week of life to less than 10 percent at 24 weeks of age.

Study limitations include that the same IIV3 formulation was used in both study years.

"We and others have previously demonstrated that the administration of IIV3 during pregnancy confers [protection](#) against symptomatic influenza infection to the infants of the vaccinated mothers; here we show that the duration of this protection is likely to be limited to the first 8 weeks of age. Several potential mechanisms of protection have been proposed ... Our study suggests that the most likely mechanism of protection of the infants is through the transplacental transfer of [maternal antibodies](#)," the authors conclude.

"The study of Nunes et al contributes significantly to our understanding of infant protection against [influenza](#) through maternal vaccination," Flor M. Munoz, M.D., of the Baylor College of Medicine, Houston, writes in a related editorial.

More information: *JAMA Pediatr.* Published online July 5, 2016. [DOI: 10.1001/jamapediatrics.2016.0921](#)

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