



Journal of Medical Sciences

ISSN 1682-4474

science
alert

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Fighting Flu in Newborns Begins in Pregnancy, Study Suggests

A three-year study by Yale School of Medicine researchers has found that vaccinating pregnant women against influenza is over 90 percent effective in preventing their infants from being hospitalized with influenza in the first six months of life. Published in the December 15 issue of Clinical Infectious Diseases, the study builds on preliminary data the research team presented last year at the Infectious Disease Society of America in Philadelphia.

Influenza is a major cause of serious respiratory disease in pregnant women and of hospitalization in infants. Although the flu vaccine is recommended for all pregnant women and children, no vaccine is approved for infants under six months of age. Preventive strategies for this age group include general infection control and vaccination of those coming in close contact with them.

First author Isaac Benowitz, a Yale medical student, senior author Marietta Vazquez, M.D., and their colleagues examined the effectiveness of flu vaccine during pregnancy in preventing hospitalization in infants. The study enrolled infants hospitalized at Yale-New Haven Hospital due to influenza and a similar group of infants without influenza. The researchers then compared whether each infant's mother had gotten the flu vaccine during pregnancy.

"When we compared vaccination rates during pregnancy in the study, we found that in the group of infants who didn't have influenza, far more mothers received the influenza

vaccine," said Vazquez, Assistant Professor in the Department of Pediatrics at Yale. "In the group of infants studied, giving the vaccine to a woman during pregnancy was 91.5 percent effective in preventing hospitalization due to influenza."

Vazquez said that the study's findings provide an effective strategy for protecting infants under six months old, for whom no vaccine is available. She also points out that vaccination during pregnancy is cost-effective, as one vaccine protects two individuals.

Other Yale authors on the study include Daina B. Esposito, Kristina D. Gracey and Eugene D. Shapiro, M.D.

Isaac Benowitz, Daina B. Esposito, Kristina D. Gracey, Eugene D. Shapiro, Marietta Vázquez. Influenza Vaccine Given to Pregnant Women Reduces Hospitalization Due to Influenza in Their Infants. *Clinical Infectious Diseases*, 2010; 51 (12): 1355 DOI: 10.1086/657309