When pregnant women receive an influenza vaccination they might be providing protection that extends to their babies after they are born, researchers found.

Over the course of seven consecutive flu seasons occurring before the H1N1 pandemic, infants younger than 6 months born to mothers who were vaccinated during pregnancy were less likely to be hospitalized with influenza (OR 0.52, 95% CI 0.30 to 0.91), according to Katherine Poehling, MD, MPH, of Wake Forest University in Winston-Salem, N.C., and colleagues.

The results were similar when both maternal vaccination and a history of flu-like illness during pregnancy were considered, the researchers reported in a supplement to the June issue of the *American Journal of Obstetrics & Gynecology*
on influenza and pregnant women.

"Given that infants less than 6 months of age have the highest hospitalization rate among all children and that the vaccine is not licensed for that age group, these data support that infants born to vaccinated mothers benefit from the transfer of maternally derived antibodies," they wrote.

"Our results support the current influenza vaccination recommendation for pregnant women."

The Advisory Committee on Immunization Practices (ACIP) recommends influenza vaccination for everybody 6 months and older, but singles out specific target groups, including pregnant women, who have a greater risk of flu-related complications.

Vaccination is primarily recommended to protect the woman, but there is some evidence from previous studies that it can also protect the unborn child.

Poehling and her colleagues assessed whether influenza vaccination during pregnancy was associated with a reduced risk of laboratory-confirmed influenza hospitalizations in infants younger than 6 months using data collected by the CDC-funded New Vaccine Surveillance Network.

The network collected information from three U.S. counties -- Davidson County, Tenn. (Nashville), Hamilton County, Ohio (Cincinnati), and Monroe County, N.Y. (Rochester) -- from November through April during the 2002 to 2009 flu seasons.

The analysis included 1,510 babies who had been hospitalized with fever, respiratory symptoms, or both within the first six months of life. All underwent laboratory testing for influenza infection.

Overall, 10% of the infants had laboratory-confirmed influenza and about one-fifth (19%) of the mothers reported receiving flu vaccine during their pregnancy.

The proportion of mothers who said they received flu vaccine during pregnancy was lower for hospitalized infants who tested positive for influenza (12% versus 20%). The difference remained significant after adjustment for demographics, exposure to smoke, siblings, day care, insurance, and breast feeding.

Poehling and her colleagues acknowledged some limitations, including the large number of infants who were excluded because of protocol violations, the use of self-reported history of vaccination and flu-like illness, and uncertainty about the applicability of the results to outpatient settings.

Another study in the supplement, by Shelly McNeil, MD, of the Canadian Center for Vaccinology in Halifax, Nova Scotia, and colleagues, pointed to a possible additional benefit of influenza vaccination during pregnancy -- the avoidance of impaired fetal growth in babies

born to mothers with a serious respiratory infection during pregnancy.

The researchers looked at information on singleton live births in Nova Scotia from 1990 to 2002 from the Nova Scotia Atlee Perinatal Database.

The analysis included 132,588 deliveries; 0.4% of the mothers had a respiratory-related hospital admission when they were pregnant.

Infants born to mothers who had been hospitalized for respiratory illness during a flu season when they were pregnant had a lower average birth weight (3,348.5 versus 3,531.1 grams, *P*= 0.009) and were more likely to be small for gestational age (15.3% versus 9.7%; RR 1.66, 95% CI 1.1 to 2.49).

The findings are consistent with a study from Bangladesh, "which suggests that this relationship may be generalizable to women who live in resource-rich countries and is independent of socioeconomic status," McNeil and her colleagues wrote.

Although a very low influenza vaccination rate among the women in the Canadian study (2.6%) precluded an assessment of the impact of immunization directly, the researchers concluded that "the prevention of maternal influenza and small for gestational age through immunization has the potential to offer tremendous and broad health benefits both for pregnant women and their children in both low- and high-income countries and should be seen as a priority research area."

Source: http://www.medpagetoday.com/InfectiousDisease/URItheFlu/26911