Flu vaccine not associated with reduced hospitalizations or outpatient visits among young children

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Use of the influenza vaccine was not associated with preventing hospitalizations or reducing physician visits for the flu in children age 5 and younger during two recent seasons, perhaps because the strains of virus in the vaccine did not match circulating strains, according to a report in the October issue of *Archives of Pediatrics & Adolescent Medicine*, one of the *JAMA/Archives* journals.

Influenza causes substantial illness among young children; therefore, the United States and other countries have expanded their childhood vaccination requirements, according to background information in the article. As of June 2006, U.S. health officials recommend annual vaccinations for all children age 6 to 59 months. "An inherent assumption of expanded vaccination recommendations is that the vaccine is efficacious in preventing clinical influenza disease," the authors write.

Peter G. Szilagyi, M.D., M.P.H., of the University of Rochester School of Medicine and Dentistry and Strong Memorial Hospital, Rochester, N.Y., and colleagues studied 414 children age 5 and younger who developed influenza during the 2003-2004 or 2004-2005 seasons (245 seen in hospitals or emergency departments, and 169 seen in outpatient practices). Their vaccination status was compared with that of more than 5,000 children from the same three counties who did not have influenza during those seasons.

Before the researchers considered any other factors, children with influenza appeared to have lower vaccination rates than children without influenza. "However, significant influenza vaccine effectiveness could not be demonstrated for any season, age or setting after adjusting for county, sex, insurance, chronic conditions recommended for influenza vaccination and timing of influenza vaccination (vaccine effectiveness estimates ranged from 7 percent to 52 percent across settings and seasons for fully vaccinated 6- to 59-month olds)," the authors write.

A suboptimal match between the strain of influenza in the vaccine and that circulating in the public during those two seasons may have contributed to the poor effectiveness, the authors note. In 2003-2004, 99 percent of circulating influenza strains were caused by the influenza A virus, but only 11 percent of influenza A strains across the United States were similar to those in the vaccine. "The 2004-2005 season was less severe and the vaccine was a better match to circulating strains than in 2003-2004, but still only 36 percent of virus isolates were antigenically similar to vaccine strains," they write.

Source: JAMA and Archives Journals