Study: Flu shot better than nasal spray in adults

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(PhysOrg.com) -- A flu shot is 50 percent more effective than nasal spray vaccine in preventing seasonal influenza in healthy adults, a new University of Michigan study shows.

The U-M School of Public Health study compared the effectiveness of a vaccine that uses an inactivated influenza virus with a vaccine that uses a live but weakened virus, said Arnold Monto, professor of epidemiology at the UM School of Public Health. The inactivated vaccine is delivered by injection, the live vaccine by nasal spray.

"This study now establishes that the flu shot is more effective than the nasal spray vaccines in healthy adults in preventing seasonal influenza," Monto said. The differences in protection were demonstrated for the A (H3N2) viruses, the seasonal strains which cause the most severe disease.

Both vaccines prevented influenza illnesses in the 2007-2008 season, but when comparing the vaccines against each other, the flu shot was 50 percent more effective than the nasal spray in preventing seasonal influenza, said Suzanne Ohmit, co-author of the study, which appears Sept. 24 in the New England Journal of Medicine.

The study was carried out in healthy adults between 18 and 49 years old. From the group's studies in previous flu seasons, the efficacy of the nasal spray vaccine in adults has been questioned. It is known that the nasal spray, or live virus vaccine, is likely superior to the inactivated vaccine for children, especially those under age 6, Monto said.

This could be because the virus in the nasal spray must infect the nasal passages in order to induce a protective immune response. Children have not been exposed to as many strains of the flu virus so they have not built antibodies to it and thus it's easier to infect their nasal passages with the weakened virus. Adults, on the other hand, might not become infected because they have build antibodies through past exposures and infection with influenza, he said.

It's important to note that this study does not address protection of either vaccine against the novel influenza H1N1 swine flu strain that has circulated since spring 2009. The strains used in both seasonal vaccines are different and won't protect against the novel H1N1 strain.

Because it's a novel strain, meaning most people have not been exposed to it, adults may respond well to a nasal spray vaccine for the swine flu virus, similar to the way that children respond to nasal spray for the seasonal flu. Both live and inactivated vaccines are currently being manufactured to prevent the novel H1N1 swine flu, Monto said, and should be used when available.

The paper, "Comparative Efficacy of Inactivated and Live Attenuated Influenza Vaccines," appears in the Sept. 24 issue of the *New England Journal of Medicine*.

The University of Michigan School of Public Health has been working to promote health and prevent disease since 1941, and is consistently ranked among the top five public health schools in the nation.

Provided by University of Michigan

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