Study suggests flu vaccine may take edge off respiratory syncytial virus

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Telethon Kids Institute study has suggested the seasonal flu vaccine for children could also protect them from respiratory syncytial virus (RSV), with the dual benefit easing pressure on hospitals.

RSV is prolific in winter, infecting children's lungs and potentially leading to hospitalization for bronchiolitis and pneumonia.

Because there is no licensed RSV vaccine available, the researchers, publishing in the journal *Vaccine*, investigated the seasonal influenza vaccine's impact on reducing RSV hospitalizations.

Researchers examined data from 360,994 Western Australian children under the age of 7 and born between 2000 and 2013 to examine any effects.

The study observed flu vaccination coverage was low before 2008, yet 2009 showed a 36% increase in flu vaccinations in babies aged 6–23 months, a year after the state-funded pre-school vaccination program started.

The new program and increase in vaccination uptake in this age group coincided with a drop in RSV cases.

Over five years, the pre-school influenza program resulted in 1,193 fewer RSV hospitalizations with 793 children, or 67%, under 2 years old.

Lead analyst Dr. Huong Le, from the Wesfarmers Center of Vaccines and Infectious Diseases based at Telethon Kids Institute and The University of Western Australia's Center for Child Health Research, said the analysis used a new approach to enhance the accuracy of results.

Associate Professor Hannah Moore, an epidemiologist from the Wesfarmers Center of Vaccines and Infectious Diseases and Curtin University's School of Population Health, said the study suggested a protective effect that warranted further investigation.

"While it is well established that vaccines are effective in treating the diseases they were designed to target, emerging evidence suggests vaccines also have non-specific effects on diseases caused by other pathogens," Associate Professor Moore said.

"The study showed a link between flu vaccine uptake and reduced RSV cases needing hospitalization for the under-2 age group—the most vulnerable group for contracting the flu and RSV.

"With no licensed RSV vaccine available, further research could determine whether the influenza vaccine could work as an interim measure to ward off RSV while the vaccination landscape develops."

Director of the Wesfarmers Center of Vaccines and Infectious Diseases, Professor Chris Blyth, based at the Telethon Kids Institute, Perth Children's Hospital and UWA's Medical School, said reduced RSV cases due to increased flu vaccine uptake would relieve significant pressure on the hospital system.

"The extra benefit of the flu vaccine has potential to significantly reduce health care pressures in winters when the flu and RSV are particularly prevalent," Professor Blyth said.

"Increasing flu vaccine uptake for children would not only reduce pressure on the hospital system, but it would also equate to significant health care savings.

"While the flu vaccine is already considered effective against the flu, this study further validates the effectiveness of state-funded influenza programs as a measure to prevent other viruses."

The Telethon Kids Institute has been at the forefront of RSV research, with a clinical study showing the effectiveness of a vaccine given to

mothers during pregnancy in protecting their babies up to 180 days after birth.

While a vaccine needs to be licensed, antibody treatments to treat RSV are also being developed and are expected to be available soon.

Further investigation into the effectiveness of the flu vaccine against RSV could potentially also help protect babies and children from the respiratory virus.

More information: Huong Le et al, Non-specific benefit of seasonal influenza vaccine on respiratory syncytial virus-hospitalisations in children: An instrumental variable approach using population-based data, *Vaccine* (2023). DOI: 10.1016/j.vaccine.2023.06.085

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