

ORAL ABSTRACTS

650. Relative Vaccine Effectiveness of Live-Attenuated Versus Inactivated Influenza Vaccines in Children and Adolescents Aged 2–18 Years in Two Seasons – US Flu VE Network

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Background. Randomized trials indicate superior effectiveness of live attenuated influenza vaccine (LAIV) compared to inactivated influenza vaccines (IIV) in children aged 2–6 years. We compared relative effectiveness of LAIV versus IIV in preventing medically attended influenza illness in children 2–18 years enrolled in an observational

study of influenza vaccine effectiveness (VE) over two seasons.

Methods. We analyzed data from 1468 children aged 2–18 years, considered fully vaccinated with either LAIV or IIV, who presented for treatment of acute respiratory illnesses (ARI) during the 2011–12 or 2012–13 influenza seasons. Specimens from participants were tested for influenza infection by real-time reverse-transcription PCR. Relative VE was calculated by comparing LAIV versus IIV receipt in those patients who tested positive for influenza and those who tested negative and calculated as $100 \times (1 - \text{adjusted odds ratio})$ in logistic regression models adjusted for age, race/ethnicity, sex, subjective health status, presence of high risk conditions, enrollment site, interval from illness onset to enrollment (days), and week of enrollment.

Results. 576 fully vaccinated children aged 2–18 years were enrolled during medically attended ARI episodes in 2011–12 and 892 in 2012–13. In 2011–12, among 72 (13%) children with laboratory-confirmed influenza, 12 (17%) had received LAIV and 60 (83%) IIV; among 504 influenza test-negative children, 100 (20%) had received LAIV and 404 (80%) IIV. Relative effectiveness of LAIV vs. IIV in 2011–12 was 4% (95% CI, -106, 55). In 2012–13, among 289 (32%) children with laboratory confirmed influenza, 65 (22%) had received LAIV and 224 (78%) IIV; among 603 influenza test-negative children, 148 (25%) had received LAIV and 455 (75%) IIV. Relative effectiveness in 2012–13 was 4% (95% CI, -40, 34). In children aged 2–8 years, relative effectiveness of LAIV vs. IIV was 43% (95% CI: -80, 82) in 2011–12 and 35% (95% CI -8, 61) in 2012–13. In children aged 9–18 years, relative effectiveness of LAIV vs. IIV was -16% (95% CI, -277, 64) in 2011–12 and -21%, (95% CI, -134, 38) in 2012–13.

Conclusion. We observed nonsignificant results that did not indicate a difference in effectiveness of LAIV compared to IIV in preventing medically attended influenza illness in children and adolescents.

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