

Influenza Hospitalizations during Childhood in Children born Preterm

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Abstract

Objective: To determine if children born preterm were at increased risk of influenza hospitalization up to age five. **Methods:** National registry data on all children born in Norway between 2008 and 2011 was used in Cox regression models to estimate adjusted hazard ratios (aHR) for influenza hospitalizations up to age five in children born preterm (<37 pregnancy weeks). HRs were also estimated separately for very preterm (<32 weeks), early term (37-38 weeks), and post-term (≥42 weeks) children. **Results:** Among 238 628 children born in Norway from January 2008 to December 2011, 15 086 (6.3%) were born preterm. There were 754 (0.3%) children hospitalized with influenza before age five. The rate of hospitalizations in children born preterm was 1.4 per 10 000 person-years (95% confidence interval [CI]: 1.1-1.7), and 0.6 per 10 000 person-years (95% CI: 0.5-0.6) in children born at term (≥37 weeks). Children born preterm had a higher risk of influenza hospitalization before age 5: aHR 2.33 (95% CI: 1.85-2.93). The risk increased with decreasing gestational age and was highest among those born very preterm; aHR 4.07 (95% CI: 2.63-6.31). Compared to children born at 40-41 weeks, children born early term also had an elevated risk of influenza hospitalization; aHR (37 weeks) 1.89 (95% CI: 1.43-2.40), aHR (38 weeks) 1.43 (95% CI: 1.15-1.78). **Conclusion:** Children born preterm had a higher risk of influenza hospitalizations before age five. An elevated risk was also present among children born at an early term. Children born preterm would benefit from influenza vaccinations.

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