

ScienceDaily
Jan. 4, 2010

Refusing Chickenpox Vaccine Associated With Increased Risk of Disease

— Children whose parents refuse the varicella (chickenpox) vaccine appear more likely to develop the disease, according to a report in the January issue of *Archives of Pediatrics & Adolescent Medicine*, one of the JAMA/Archives journals.

Routine childhood immunizations have reduced illness and death related to a wide variety of vaccine-preventable diseases, according to background information in the article. Recent trends, however, suggest that public trust in the national immunization program is declining.

"Expanding childhood immunization requirements and increased media coverage of alleged associations between vaccinations and chronic illnesses have heightened parental concerns regarding vaccine safety," the authors write. "Parents have also expressed concerns that children are at low risk of infection and that many vaccine-preventable diseases are not serious. During the last decade, as a consequence, the number of parents who claimed non-medical exemptions to school immunization requirements has increased significantly."

Jason M. Glanz, Ph.D., of Kaiser Permanente's Institute for Health Research, Denver, and colleagues studied 133 children enrolled in one health plan who developed chickenpox between 1998 and 2008. Each case was matched to four randomly selected children who were the same age and sex and had been enrolled in the plan for the same amount of time, but had not developed chickenpox.

Among the 133 children who developed chickenpox, seven (5 percent) had parents who refused the varicella vaccine, compared with three (0.6 percent) refusals among the 493 controls. "Compared with vaccine acceptors, children of vaccine-refusing parents had a nine-fold increased risk of varicella illness," the authors write. "Overall, 5 percent of varicella cases in the study population were attributed to vaccine refusal. We believe these results will be helpful to health care providers and parents when discussing decisions about immunizing children."

The findings suggest that if more parents refuse vaccines, the incidence of varicella and related complications also may increase over time, especially among individuals at high risk of severe infection (such as pregnant women, infants and those with compromised immune systems), the authors note. "These results provide evidence to counter the misperception among some parents that unvaccinated children are not at risk for vaccine-preventable diseases," they conclude.

This study was supported in part by a grant from the National Institute of Allergy and Infectious Diseases, and in part by Kaiser Permanente Colorado Institute for Health Research.

Journal Reference:

Jason M. Glanz; David L. McClure; David J. Magid; Matthew F. Daley; Eric K. France; Simon J. Hambidge. Parental Refusal of Varicella Vaccination and the Associated Risk of Varicella Infection in Children. *Arch Pediatr Adolesc Med*, 2010; 164 (1): 66-70