

Refusing immunizations puts increases the risk of varicella illness in children

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Children of parents who refuse vaccines are nine times more likely to get chickenpox compared to fully immunized children, according to a new study led by a vaccine research team at Kaiser Permanente Colorado's Institute for Health Research. The study was published today in the January issue of the journal *Archives of Pediatrics & Adolescent Medicine*.

Funded by the National Institute of Allergy and Infectious Diseases, this is the first study to examine the relationship between parental vaccine refusal and the risk of varicella infection in children, adding to the body of knowledge on the risk of vaccine refusal. The study used electronic health records of more than 86,000 children who were members of Kaiser Permanente Colorado between 1998 and 2008.

Varicella is one of the most commonly refused childhood vaccine likely due to perceptions by parents and providers that chickenpox is the least severe of all vaccine-preventable diseases.

Childhood vaccinations have led to dramatic reductions in a number of serious childhood illnesses, but the number of parents refusing immunizations appears to be increasing in the United States. The study could not determine from the information available why parents elected to decline vaccines for their children. The study also did not evaluate the side effects of vaccines.

"Many parents question the need for vaccinations. This study provides

evidence to counter the misperception among vaccine-refusing parents that their children are not at risk for potentially serious illness," said study lead author Jason Glanz, PhD, a senior scientist and epidemiologist at Kaiser Permanente's Institute for Health Research. "It also provides further information to pediatric health care providers to help them convey the benefits and risks of vaccines. This evidence should assist parents and doctors when having discussions about vaccines and help parents make more informed decisions."

Varicella is a highly contagious disease that causes a high fever, an itchy rash and red spots or blisters all over the body. The disease can pose a severe risk for children, especially those with bad eczema, cancer, HIV, or other immune-compromising conditions. It can also cause serious complications in pregnant women and newborns.. Prior to the widespread use of varicella vaccine in 1995, there were four million cases of varicella infection annually, resulting in more than 10,000 hospitalizations and 100 deaths per year in the U.S. Since then, immunization has reduced annual morbidity, mortality, and hospitalizations due to varicella by more than 80 percent.

The best way to prevent varicella is through vaccination. Most health experts recommend that all children 12 months of age and older who have not had chickenpox get one dose at 12 to 15 months and a second, booster dose at 4 to 6 years old. Adolescents and adults who are not already immune to the [chickenpox](#) virus need two doses at least 4 weeks apart. The varicella vaccine has been shown to be 95 percent effective in preventing moderate to severe infection, and 70 to 90 percent against mild infection.

"Varicella isn't necessarily a mild illness, and it's important for parents to know that choosing not to vaccinate their children not only places their child at risk for infection requiring medical care, but also places members of the community at risk. This study adds to the body of

information showing that the benefits greatly outweigh the risks of this safe vaccine," Glanz said.

To assess the risk of varicella [vaccine](#) refusal, researchers reviewed the electronic health records of 86,993 children between the ages of 12 months and 8 years who were members of Kaiser Permanente Colorado between 1998 and 2008. First, investigators confirmed which children had varicella infections. Next, they verified whether parents had refused some or all varicella vaccines for their children.

The researchers found 133 physician-confirmed varicella cases that met the study's criteria. They compared these cases to 493 children of the same age and gender who were not infected with varicella. Based on this analysis, the researchers discovered that children of vaccine- refusing parents were nine times more likely to be infected with varicella than vaccinated [children](#).

More information: Arch Pediatr Adolesc Med. 2010;164[1]:66-70

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