Rotavirus vaccination of infants also protects unvaccinated older children and adults

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[EMBARGOED FOR AUG. 30, 2011] Vaccinating infants against rotavirus also prevents serious disease in unvaccinated older children and adults, according to a study by the Centers for Disease Control and Prevention (CDC). This helps reduce rotavirus-related hospital costs in these older groups. The results of the study are published in The *Journal of Infectious Diseases* and are now available online [1].

Rotavirus is a major cause of severe diarrhea in infants and young children. Before the vaccine, rotavirus was responsible for 58,000 to 70,000 pediatric hospitalizations each year. Routine rotavirus vaccination of U.S. infants started in 2006 and has been very successful at reducing hospitalizations from severe infections in children under 5.

Study author Ben Lopman, PhD, and colleagues assessed whether the benefits of the rotavirus vaccination program also extended to children older than 5 years, adults, and the elderly who are not eligible for the vaccine. The researchers examined nationally-representative data from 2000 to 2008 to determine if hospital admissions for rotavirus and severe diarrhea declined among unvaccinated children and adults.

"Rotavirus-related hospital admissions decreased in all age groups?most significantly in people 5 to 24 years old who were not eligible for the rotavirus vaccine. The largest reduction was in March, the peak month for rotavirus infection," noted Dr. Lopman. Also in March, there were significant reductions in rotavirus admissions in people 25 years and older and admissions for severe diarrhea in the elderly. "We speculate that vaccinating infants curtailed rotavirus transmission in the community, resulting in fewer infections across the entire population," said Dr. Lopman. About 10,000 hospitalizations of children 5 and older were averted in 2008, amounting to about $40 million in health care savings.

"Our study showed that the burden of rotavirus?severe enough to require hospitalization?in older children and adults is larger than we were previously aware," said Dr. Lopman. "And by vaccinating infants, we can indirectly prevent this burden of disease, thereby amplifying public health and economic benefits of infant vaccination."

In an accompanying editorial, Roger I. Glass, MD, PhD, director of the Fogarty International Center at the National Institutes of Health, speculated that a similar approach could "make a big difference in our ability to prevent deaths and severe disease from rotavirus in the developing world." Each year, 600,000 children die as a result of rotavirus infection in low-income countries, including those where rotavirus occurs year-round. Further research is needed in these settings, Dr. Glass

concluded, noting the benefits and challenges of introducing such a program in lower-income countries.

Fast Facts:

1. Rotavirus vaccination indirectly averted approximately 10,000 hospitalizations in 2008 in unvaccinated children aged 5 years and older in the United States, saving a total of $40 million in health care costs.

2. This study highlights the previously unrecognized burden of rotavirus infection severe enough to require hospitalization in children aged 5 years and older and adults.

3. Infants and young children play a critical role in spreading rotavirus to unvaccinated older children and adults.

SOURCE [2]

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