Study: ID-Related Infant Hospitalizations at 43%

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Infectious disease hospitalizations accounted for 43% of all infant hospitalizations in the United States in 2003, at a cost of $690 million, results from a large national analysis of hospital records demonstrated.

Younger infants, boys, and nonwhite infants were at increased risk for infectious disease–related hospitalization; the most common diagnoses were lower respiratory tract infections, Krista L. Yorita, M.P.H., of the division of viral and rickettsial disease at the Centers for Disease Control and Prevention and colleagues reported.

"Additional efforts are needed to provide broader access to preventive services, to decrease health care disparities, and to improve the health status for all infants in the United States," they wrote.

To assess the burden and epidemiological features of infectious disease hospitalizations in the United States, the researchers extracted hospital discharge records from the Kids' Inpatient Database (KID). Produced by the Healthcare Cost and Utilization Project, this database contains pediatric discharge information from short-term, nonfederal, general, and specialty hospitals in 36 states.

The investigators limited their analysis to hospitalizations for infants younger than 1 year of age who had an ICD-9 code for an infectious disease listed as the primary diagnosis on their discharge record (Pediatrics 2008;121:244-52).

In 2003, there were 286,739 infectious disease–related hospitalizations among infants, which accounted for 43% of all infant hospitalizations in the database that year. This translated into an infectious disease hospitalization rate of 7,011 hospitalizations per 100,000 live births, or nearly 1 hospitalization for every 14 infants. This figure had not changed from the 1998-1999 rate reported in a study that used data from the National Hospital Discharge Survey (Pediatrics 2003;111:e176-82).

Infants in the second month of life made up the largest group of infants hospitalized for infectious disease (19%). Boys were significantly more likely than girls to be hospitalized for infectious disease (7,815 per 100,000 live births vs. 6,138 per 100,000 live births, respectively).

In addition, Hispanic and non-Hispanic black infants had higher infectious disease hospitalization rates, compared with non-Hispanic white infants, whereas Asian/Pacific Islander infants had the lowest rates of hospitalization.

"Male gender and nonwhite race are both known risk factors for infant death and adverse outcomes (including low birth weight), which may influence the high rate of infectious disease hospitalizations in this group," the researchers noted.

Lower respiratory tract infections were the most commonly listed diagnoses (59%), followed by diagnoses including kidney, urinary tract, and bladder infections (8%), upper respiratory tract infections (7%), and septicemia (7%).

Respiratory syncytial virus (RSV) "is the most common viral cause of lower respiratory tract infections in infants and, consistent with our findings, RSV bronchiolitis was reported to be the leading primary diagnosis for hospital discharges among infants in previous years," the researchers reported.

They went on to note that the rate of bronchiolitis-associated hospitalizations increased among infants in the United States from 1980 to 1996 and from 1999 to 2001, "indicating a need for continued surveillance and research into potential vaccines and treatments."

Hospital cost for all admissions included in the study totaled $690 million.

The median hospital stay was 3 days for a median cost of $2,235 per infant hospitalized.

The researchers acknowledged certain limitations of the study, including the fact that the reporting of infectious disease hospitalizations differs among hospitals, "or by regional differences in admitting practices, and diagnoses may be incomplete or miscoded."

"It is not possible to identify a patient or to link the patient's hospitalization records in the KID, because patient identifiers are not available; therefore, readmissions would be included in this analysis."

They also noted that the study did not include data from federal health facilities where many American Indian and Alaska Native patients seek health care.

The researchers had no relevant conflicts of interest to disclose. ■