Overall antibiotic prescription rates for respiratory tract infections decreasing

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From 1995 to 2006 the rate of antibiotic prescriptions for acute respiratory tract infections decreased significantly, attributable in part to a decline in ambulatory visits for ear infections in young children, according to a study in the August 19 issue of *JAMA*. But prescription rates for broad spectrum antibiotics, namely azithromycin and quinolones, increased substantially during the study period.

During the past decade, a variety of initiatives in the United States have advocated the judicious use of antibiotics, particularly for acute respiratory tract infection (ARTI), which is a common cause of health care visits and antibiotic prescriptions, especially in young children. Antibiotic use can increase the likelihood for emergence of antibiotic-resistant bacteria. Infections caused by antibiotic-resistant microorganisms are associated with increased illness, death and substantial economic costs, according to background information in the article. Recent measurements of antibiotic prescription patterns in the United States have not been available.

Carlos G. Grijalva, M.D., M.P.H., of Vanderbilt University School of Medicine, Nashville, Tenn., and colleagues conducted a study to assess the national trends in antibiotic prescriptions for ARTI in ambulatory settings, using data from the National Ambulatory Medical Care Survey and National Hospital Ambulatory Medical Care Survey (1995-2006).

For children younger than 5 years, annual ARTI-associated visit rates decreased by 17 percent (from 1,883 per 1,000 population in 1995-1996 to 1,560 per 1,000 population in 2005-2006) and annual antibiotic prescription rates in all visits decreased by 27 percent (from 1,552 to 1,128 per 1,000 population). This decrease was due to a 36 percent reduction in ARTI-associated antibiotic prescriptions (from 1,216 per 1,000 in 1995-1996 to 779 per 1,000 in 2005-2006). Annual otitis media (OM; ear infection) visit rates decreased by 33 percent (950 to 634 per 1,000 population) over the study period and rates of antibiotic prescriptions for OM decreased by 36 percent (1,216 to 779 per 1,000 population).

Among persons age 5 years or older, ARTI visit rates remained stable but associated antibiotic prescription rates decreased by 18 percent (from 178 to 146 per 1,000 population). Antibiotic prescription rates for non-OM ARTI for which antibiotics are rarely indicated decreased by 24 percent for this group.

"Overall, ARTI-associated prescription rates for penicillin, cephalosporin, and sulfonamide/tetracycline decreased. Prescription rates for azithromycin increased and it became the most commonly prescribed macrolide [a type of antibiotic] for ARTI and OM (10 percent of OM visits). Among adults, quinolone prescriptions increased," the authors write.

"Our results indicate that overall antibiotic prescription rates have decreased significantly. These changes coincided with efforts to reduce inappropriate antibiotic prescribing and the initiation of routine infant immunization with pneumococcal conjugate vaccine. Further efforts to improve antibiotic selection are needed."

More information: *JAMA*. 2009;302[7]:758-766.

Source: JAMA and Archives Journals (news : web)