

## Update 76

### Antibiotic Prescribing for Children who have a Medical Physician or Pharmacist as a Parent

A survey from the US (1), published in 2002, which set out to determine if the rate of appropriate antibiotic use in the treatment of children had changed in recent years, concluded that,

“Physicians are slowly improving their antibiotic prescribing patterns but the use of inappropriate antibiotics is still common - almost half of patients with upper respiratory tract infections still receive antibiotics”.

More recent study (2) published this month (Oct, 2005) in the journal *Pediatrics*, by researchers from the School of Medicine, National Yang Ming University, Taipei, Taiwan, investigated whether children who have a health professional as a parent are less likely than other children to receive antibiotics for nasopharyngitis (common colds), upper respiratory tract infections (URIs), and acute bronchitis.

The authors carried out a retrospective analysis of National Health Insurance data for children of physicians, nurses, pharmacists, and non-health personnel, who had visited hospital outpatient departments or physician clinics for common colds, URIs, and acute bronchitis in Taiwan in 2000.

A total of 53,733 episodes of care for common colds, URIs, and acute bronchitis in a nationally representative sample of children living in non-remote areas were analyzed.

**The authors report the study found that children with a physician (odds ratio [OR]: 0.50; 95% confidence interval [CI]: 0.36-0.68) or a pharmacist (OR: 0.69; 95% CI: 0.52-0.91) as a parent were significantly less likely than other children to receive antibiotic prescriptions.**

The likelihood of receiving an antibiotic for the children of nurses (OR: 0.91; 95% CI: 0.77-1.09) was similar to that for children in the comparison group.

The authors conclude that,

“This finding supports our hypothesis that better parental education does help to reduce the frequency of injudicious antibiotic prescribing. Medical knowledge alone, however, may not fully reduce the overuse of antibiotics. Physician-parents, the expected medically savvy parents, can serve as a benchmark for the improvement potentially achievable in Taiwan...”.

**ASRF Clinical Update Editor's comments** - In other words, comparison of children of medical physicians, pharmacists, nurses and non-health personnel showed that those of physicians were 50 percent less likely than others to receive an antibiotic prescription. Children of pharmacists were 69 percent less likely to be prescribed these drugs. However, for nurses, the likelihood was similar to that of the general population. Children of parents in low-income groups were also significantly more likely to receive antibiotics than those with higher incomes.

The author's conclusion to the above study is one of a number of possible interpretations of the findings. An alternative, but in the absence of more data, just as valid interpretation, is that when a child has a parent who is a physician or pharmacist, the child's primary care physician is influenced such that injudicious antibiotic prescribing is less likely to take place.

#### References:

- 1) Nash DR, Harman J, Wald ER, Kelleher KJ. *Antibiotic prescribing by primary care physicians for children with upper respiratory tract infections*. Arch Pediatr Adolesc Med. 2002;156:1114-9.

- 2) Huang N, Morlock L, Lee CH, Chen LS, Chou YJ. *Antibiotic prescribing for children with nasopharyngitis (common colds), upper respiratory infections, and bronchitis who have health- professional parents.* Pediatrics. 2005;116:826-32.