

Dynamics of Antibiotic Prescribing for Children EDITORIAL

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"Physicians have been receiving repeated messages to curtail antibiotic use from the biomedical literature, medical and public media, health insurance companies, key opinion leaders, alternative medicine advocates, and some patients."

"The message has been consistent, frequent, and loud, so it cannot have been missed."

"Research during the past decade has established that antibiotic overuse is a major public health problem; approximately 50% of prescriptions for children written by community-based practitioners are unnecessary, and the single most important factor in the emergence of antibiotic resistance among respiratory bacterial pathogens is selection pressure from antimicrobial agents."

"As a public health policy, there seems little doubt that overzealous prescribing habits and inappropriate use of antibiotics should be reduced on a community-wide basis."

Although recent studies in the New England Journal Of Medicine (same issue, June 19, 2002) suggest that antibiotic prescribing for common respiratory tract infections among children has decreased, this author questions that conclusion, based on the following:

- (1) There is evidence that the number of physician visits has declined, resulting in fewer antibiotics being prescribed. Therefore, this does not mean that physicians are prescribing fewer antibiotics per patient contact.
- (2) There is increased telephone dispensing of antibiotics which was not considered in the studies suggesting that fewer antibiotics are being prescribed.
- (3) The studies suggesting that fewer antibiotics are being prescribed only considered respiratory tract infections, while urinary tract infection prescribing rates apparently are quite different.
- (4) Patient self-administration of leftover antibiotic prescriptions continues to occur.
- (5) Because of the considerable attention focused on antibiotic overprescribing, physicians may be changing their diagnostic labeling depending on whether they intend to prescribe antibiotics, thus avoiding scrutiny and criticism regarding excessive antibiotic use.

These suggest that physicians may not have actually changed their antibiotic prescribing behaviour.

"One study suggests that up to 66% of children arriving for outpatient care have already been self-administering antibiotics."

"A recent study suggests that pediatricians have a poor knowledge about pneumatic otoscopy and misdiagnose otitis media about 50% of the time."

"Despite the apparent decline in antibiotic prescribing for children and adolescents described [in recent studies], resistance among bacteria that cause respiratory tract infections continues to increase."

Current mathematical models predict that it would take "years or even decades to see substantial reductions in the frequency of antibiotic resistance solely as a result of more prudent use of antibiotics."

This author recommends:

"Physicians need to learn to differentiate by otoscopic examination acute suppurative otitis media (for which antibiotics are appropriate) and otitis media with effusion (for which antibiotics may be deferred)."

"For patients with pharyngitis, laboratory documentation by rapid antigen detection test or throat culture for group A streptococcus should be a standard of care before antibiotics are prescribed."

"Upper respiratory tract infections are viral, and unless associated fever lasts more than 5 days or purulent rhinitis (which can be caused by a viral, allergic, or bacterial etiology) lasts more than 10 days, it would be prudent and preferable to postpone initiation of antibiotic therapy."

"Cough is usually caused by viral illness, and unless associated fever lasts more than 5 days or purulent sputum (which can be caused by a viral, allergic, or bacterial etiology) lasts more than 10 days or there are physical examination and/or chest radiograph findings providing evidence of pulmonary consolidation, it would be prudent and preferable to postpone initiation of antibiotics."

"Low dosages of antibiotics (as prescribed by physicians or taken by patients as self-medication from leftover supplies) promote bacterial resistance."

"Physicians need to be convinced that presumptive antibiotic use for viral respiratory tract infections does not minimize or prevent the development of secondary bacterial infections, that patients receiving presumptive antibiotics have no difference in rate of return visits; that overuse of antibiotics promotes the development of bacterial resistance; that adverse effects of antibiotics can occur and may be serious; and that costs for unnecessary antibiotics should be avoided." **[Wow, Very Important]**

KEY POINTS FROM DAN MURPHY

- (1) Antibiotics are extremely over prescribed, and physicians know it, and yet physicians are the ones who over prescribe the antibiotics.
- (2) Over prescribing antibiotics is extremely dangerous for both the individual and for the global society because it selects for stronger resistant strains of pathogens that are often impossible to combat.
[See article from the Chicago Tribune at the end]
- (3) Half of the antibiotic prescriptions for children are unnecessary.
- (4) 66% of children may be self-administering antibiotics. [From their parents]
- (5) Pediatricians misdiagnose otitis media about 50% of the time. **[WOW!]**
- (6) The damage done to the global environment by the unnecessary over prescribing of antibiotics will take decades to reverse, and only then if there is more prudent use of antibiotics [which appears to be unlikely].
- (7) Presumptive antibiotic use for viral respiratory tract infections does not minimize or prevent the development of secondary bacterial infections.
[Very IMPORTANT]

Report: Thousands die needlessly from hospital infections
ASSOCIATED PRESS, July 20, 2002

"About 103,000 deaths were linked to hospital infections in 2000 -- a figure 14 percent higher than government estimates -- and nearly 75 percent of the deaths were preventable, the Chicago Tribune reported."

"The national Centers for Disease Control and Prevention last year calculated 90,000 deaths in 2000 were linked to hospital infections, the fourth leading cause of death in the United States behind heart disease, cancer and strokes." **[WOW!]**

"Many of the deaths were caused by unsanitary facilities, germ-laden instruments and unwashed hands."

"Infection rates are soaring nationally, exacerbated by hospital cutbacks and carelessness by doctors and nurses, and serious violations of infection-control standards have been found in the majority of hospitals."

"Since 1995, more than 75 percent of all hospitals have been cited for serious cleanliness and sanitation violations." **[WOW!]**

"Hospitals are not required to disclose infection rates, and most do not."

"Doctors are not required to tell patients about risk or exposure to hospital germs."