



Resistance in Enteric Pathogens – the Pediatric Perspective

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Diarrheal diseases kill at least one child somewhere in the world every 15 seconds.¹ The morbidity and mortality in children under age 5 is significant in both developed and developing countries. In the USA, data from the National Hospital Discharge Survey indicate that >170,000 children under 5 years were hospitalized yearly during the 1980s and 1990s and that approximately 300 children die annually from complications associated with diarrheal illnesses.² The role of day care centers in the epidemiology of diarrheal diseases has not gone unnoticed. Increasing numbers of children are cared for daily in this setting or in similar environments. The peak incidence of diarrhea occurs in children under 3 years of age. Diarrheal diseases are consistently two times as common among preschool children in a day care environment than those children cared for in their own homes.³ Enteric infections in DCC are spread primarily by oral contact with infectious agents in stool. Fecal contamination of diaper change areas, faucets, floors and toys is commonplace. On average, toddlers put their hands or a toy in their mouths every 3 minutes.³

The most common bacterial pathogens affecting young children are *Salmonella*, *Campylobacter*, *Shigella* and *E. coli O157:H7*. In a recent FOODNET surveillance study from CDC⁴, in children <1 year, *Salmonella* had the highest rates at 134/100,000 followed by *Campylobacter* at 33.5/100,000. In children between the ages of 1 and 4 years, *Shigella* was present at 29.1/100,000 and *E. coli O157:H7* at 6.8/100,000. The prevalence of these illnesses in this patient population and the need to treat *Salmonella*, *Campylobacter* and *Shigella* infections in this age group with antimicrobial agents impacts on the escalating antimicrobial resistance that is being seen globally. The role of antimicrobial treatment of diarrheal illnesses in children and the issues particular to this population, i.e. which antimicrobials can be safely used, what impact will increased usage of quinolones in this population have on current trends in resistance patterns, will be addressed.

References

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