

Campylobacter linked to growth shortfalls among low-resource children

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Campylobacter infection contributed to linear growth deficiencies among children in resource-limited areas, according to published study findings.

“Recent work has implicated *Campylobacter*, with the putative mechanism being environmental enteric dysfunction, a condition characterized by altered intestinal function and inflammation,” **James A Platts-Mills, MD**, assistant professor at the University of Virginia Health System, and colleagues wrote. “In high-resource settings, *Campylobacter* infection is sporadic and associated with exposure to undercooked chicken, or less frequently, common-source outbreaks, often due to contaminated dairy products. In contrast, in low-resource settings, *Campylobacter* infection is frequently endemic. While exposure to poultry may be important, identified determinants are varied.”

In the multisite birth cohort MAL-ED study, Platts-Mills and colleagues analyzed a cohort of 1,892 children from eight disadvantaged communities in Asia, sub-Saharan Africa and South America who were followed from birth to age 24 months. The researchers collected and tested 7,601 diarrheal and 26,267 nondiarrheal stools for *Campylobacter* using enzyme immunoassays.

Almost 85% of the cohort developed infection with a positive *Campylobacter* stool by 1 year. Children who were breast-fed exclusively (RR = 0.57; 95% CI, 0.47–0.67), exposed to treated drinking water (RR = 0.76; 95% CI, 0.7–0.83), had access to cleaner latrines (RR = 0.89; 95% CI, 0.82–0.97) and recently used macrolide antibiotics (RR = 0.68; 95% CI, 0.63–0.74) displayed a reduced risk for infection. High-burden risk for infection correlated with a lower length-for-age z score at 24 months (–1.82; 95% CI, –1.94 to –1.7), in addition to intestinal and systemic inflammation and increased intestinal permeability.

“Promotion of exclusive breast-feeding, routine treatment of drinking water, access to improved latrines and judicious antibiotic administration may reduce *Campylobacter* infection and improve linear growth in children in these settings,” the researchers wrote. “We recommend that, in addition to vaccine development, clinical trials be undertaken to reduce *Campylobacter* infections via such interventions, with both subclinical pathogen infection and linear growth as outcomes of interest.” – by *Kate Sherrer*

Disclosure: The researchers report no relevant financial disclosures.