

Study: A Case Control Study of the Epidemiology of Sporadic *Salmonella* Infection in Infants

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Findings from a recent study conducted by CDC's Foodborne Diseases Active Surveillance Network (FoodNet) describe a number of ways infants can become infected with *Salmonella*, including placing your infant in a shopping cart at the neighborhood grocery store.

There are an estimated 1.4 million illnesses and 400 deaths caused by *Salmonella* in the United States each year. It is the second leading cause of bacterial diarrhea. Illness among adults has been linked to the consumption of animal products (e.g. beef, dairy, eggs, and poultry), exposure to reptiles, international travel and, most recently, fresh produce. However, much less is known about those potential sources of infection that cause illness in infants.

Over the course of a 24-month period, in 2002-2004, FoodNet launched a case-control study of sporadic salmonellosis among infants under the age of one year. FoodNet investigators contacted all clinical laboratories in eight FoodNet sites trying to identify all cases of laboratory-confirmed *Salmonella* infection. Participating sites included Connecticut, Minnesota, Oregon, and selected counties in California, Colorado, Georgia, New York and Tennessee, covering a population of approximately 35.2 million persons (12.1% of the U.S. population), including approximately 450,000 infants.

FoodNet enrolled 442 infants infected with *Salmonella*, along with 928 healthy infants. Parents/guardians were asked about various environmental and dietary exposures these infants may have had in the five days before their illness.

When compared to healthy infants, those with *Salmonella* infection were less likely to have been breastfed, and more likely to have had exposure to reptiles, ridden in a shopping cart next to meat or poultry or consumed concentrated liquid infant formula during the five-day exposure period. Travel outside the United States was associated with illness in those 3–6 months and >6 months of age. Attending daycare with a child with diarrhea was associated with salmonellosis in infants >6 months of age.

As the study revealed, infants can become infected with *Salmonella* through a variety of exposures. Many, of which, could be easily prevented with appropriate hand washing and health education.