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Prevalence, risk factors and antimicrobial resistance of *Salmonella* diarrhoeal infection among children in Thi-Qar Governorate, Iraq

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Statement of the Problem: Salmonellosis is one of the most common bacterial diarrheal illnesses among children and poses a significant public health burden worldwide; despite this fact, data on non-typhoidal *Salmonella* spp. in Iraq are limited. The current study therefore aimed to determine the prevalence, clinical presentation, serotype and antimicrobial resistance profiles, and risk factors associated with *Salmonella* infection in children in Thi-Qar province, south-eastern Iraq.

Methodology & Theoretical Orientation: This hospital-based cross-sectional study was conducted among children aged less than 5 years presenting with diarrhoea at paediatrics hospitals. Stool samples were identified using conventional and molecular methods. Antimicrobial susceptibility testing was performed using disk diffusion method. The associations between stool-culture positivity for *Salmonella* spp. and risk factors were assessed by Odds Ratio (OR), and 95% Confidence Intervals (CIs) was considered significant at P-value ≤ 0.05.

Findings: From 320 diarrhea cases enrolled between March and August 2016, 33 (10.3%) diarrhea cases were stool culture-positive for non-typhoidal *Salmonella*. Resistance was most commonly detected against tetracycline (78.8%), azithromycin (66.7%), and ciprofloxacin (60.6%). The multivariable logistic regression analysis indicated that higher odd of *Salmonella* infection in children from household associated with untreated water (pipe water) (OR=4.7 (95% CI: 1.6, 13.9), exposure to domestic animals (OR=10.5; 95% CI: 3.8, 28.4) and low education level of the caregiver (OR=3.9; 95% CI: 1.0, 6.4). Lower odd of *Salmonella* infection were associated with children exclusively breastfed (OR=0.4; 95% CI: 0.1, 0.9) and caregiver those always washing hands after cleaning child defecation (95% CI: 0.1, 0.7).

Conclusion & Significance: Our findings indicate that *Salmonella* is an important cause of children diarrhea in this setting. This work provides local, specific epidemiological data which are crucial to understand and combat pediatric diarrhea in Iraq.

Biography

Ali Harb has worked as a Head of the Investigation Team for Communicable Diseases in Thi-Qar Public Health Division, Ministry of Health, Iraq. He was graduated with a Bachelor's in Veterinary Medicine in 2003 and an MSc in Zoonotic Disease in 2010 from Baghdad University, Iraq. Currently, he is a PhD student in Epidemiology and Infectious Diseases. His PhD research is about investigating the transmission routes of community-acquired Salmonella infection in Iraq. He collected human and food samples from Iraq. He also conducted two surveys to determine the risk factors of diarrhea illness and Salmonella infection among children under five years. His research will provide a better understanding of the mode of transmission of Salmonella spp. from food sources to cause infections in humans.

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