

Variations of Invasive *Salmonella* Infections by Population Size in Asante Akim North Municipal, Ghana

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Background

The Typhoid Fever Surveillance in Africa Program (TSAP) estimated adjusted incidence rates (IRs) for *Salmonella enterica* serovar Typhi and invasive nontyphoidal *S. enterica* serovars (iNTS) of >100 cases per 100 000 person-years of observation (PYO) for children aged <15 years in Asante Akim North Municipal (AAN), Ghana, between March 2010 and May 2012. We analyzed how much these rates differed between rural and urban settings.

Methods

Children recruited at the Agogo Presbyterian Hospital and meeting TSAP inclusion criteria were included in the analysis. Towns with >32 000 inhabitants were considered urban; towns with populations <5200 were considered rural. Adjusted IRs for *Salmonella* bloodstream infections were estimated for both settings. Setting-specific age-standardized incidence rates for children aged <15 years were derived and used to calculate age-standardized rate ratios (SRRs) to evaluate differences between settings.

Results

Eighty-eight percent (2651/3000) of recruited patients met inclusion criteria and were analyzed. IRs of *Salmonella* bloodstream infections in children <15 years old were >100 per 100 000 PYO in both settings. Among rural children, the *Salmonella* Typhi and iNTS rates were 2 times (SRR, 2.2; 95% confidence interval [CI], 1.3–3.5) and almost 3 times (SRR, 2.8; 95% CI, 1.9–4.3) higher, respectively, than rates in urban children.

Conclusions

IRs of *Salmonella* bloodstream infections in children <15 years old in AAN, Ghana, differed by setting, with 2 to nearly 3 times higher rates in the less populated setting. Variations in the distribution of the disease should be considered to implement future studies and intervention strategies.