

Prevalence, Serotyping and Antimicrobials Resistance of Salmonella

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Background: Salmonella is a food-borne enteropathogenic organism which causes illness with different clinical manifestations, commonly gastroenteritis, or enteric fever by typhoidal strain. It continues to be of public health concern in most developed and developing countries despite all efforts to control.

Objective: To evaluate the epidemiology and susceptibility pattern of salmonellosis in Bahrain.

Design: A Retrospective Study.

Setting: Salmaniya Medical Complex, Bahrain.

Method: Data of the incidence and epidemiological characteristics of salmonellosis in the Kingdom of Bahrain were retrieved from the Ministry of Health (MOH) website (2007 to 2017).

Detailed microbiological analysis of Salmonella spp. isolates for the year 2017 were further studied after retrieving the data from Salmaniya Microbiology Laboratory.

Result: Significant reduction (61%) of salmonellosis incidence in Bahrain was observed over the study period, 39.6/100,000 in 2007 to 15.2/100,000 population in 2017. Cases of salmonellosis in Bahrain were mostly attributed to non-typhoidal isolates.

During the year 2017, 138 Salmonella spp. strains were identified from patients attending governmental health care facilities. One hundred two (74%) were Bahraini and 85 (62%) were males. The most predominant serotype was Enteritidis, while Salmonella typhi was the least identified isolate. There was uniform sensitivity to ceftriaxone and ciprofloxacin 6 (4.3%) among typhoidal isolates. Similar patterns of sensitivity were obtained among non-typhoidal salmonella with 99% susceptibility to ceftriaxone and 95% susceptibility to ciprofloxacin. On the other hand, our isolates showed extreme high rate of nalidixic acid resistance among typhi 6 (4.3%) but lower resistant profile among non-typhi 36 (26.1%).

Conclusion: There was a significant reduction in salmonellosis in Bahrain over the past 10 years. A high rate of nalidixic acid resistance among typhoidal isolates should preclude the use of ciprofloxacin as an empiric choice for treating typhoid fever among the population in Bahrain.