

A Systematic Review on Prevalence, Serotypes and Antibiotic Resistance of Salmonella in Ethiopia

Authors : Atsebaha Gebrekidan Kahsay, Tsehay Asmelash, Enquebahe Kassaye

Abstract : Background: Salmonella remains a global public health problem with a significant burden in sub-Saharan African countries. Human restricted cause of typhoid and paratyphoid fever are S. Typhi and S. Paratyphi, whereas S. Enteritidis and S. Typhimurium is the causative agent of invasive nontyphoidal diseases among humans and animals are their reservoir. The antibiotic resistance of Salmonella is another public health threat around the globe. To come up with full information about human and animal salmonellosis, we made a systematic review of the prevalence, serotypes, and antibiotic resistance of Salmonella in Ethiopia. Methods: This systematic review used Google Scholar and PubMed search engines to search articles from Ethiopia that were published in English in peer-reviewed international journals from 2010 to 2022. We used keywords to identify the intended research articles and used a Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) checklist to ensure the inclusion and exclusion criteria. Frequencies and percentages were analyzed using Microsoft Excel. Results: Two hundred seven published articles were searched, and 43 were selected for a systematic review, human (28) and animals (15). The prevalence of Salmonella in humans and animals was 434 (5.2%) and 641(10.1%), respectively. Fourteen serotypes were identified from animals, and S. Typhimurium was among the top five. Among the ciprofloxacin-resistant isolates in human studies, 16.7% was the highest, whereas, for ceftriaxone, 100% resistance was reported. Conclusions: The prevalence of Salmonella among diarrheic patients and food handlers (5.2%) was lower than the prevalence in food animals (10.1%). We did not find serotypes of Salmonella in human studies, although fourteen serotypes were included in food-animal studies, and S. Typhimurium was among the top five. Salmonella species from some human studies revealed a non-susceptibility to ceftriaxone. We recommend further study about invasive nontyphoidal Salmonella and predisposing factors among humans and animals in Ethiopia.

Keywords : antibiotic resistance, prevalence, systematic review, serotypes, Salmonella, Ethiopia

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