Prevalence and Antimicrobial Resistance of Campylobacter coli and Campylobacter jejuni in the Animals, Food Products, and Human Clinical Specimens in Iran During 2004 - 2017: A Review Study

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Abstract:

Context: Several studies reported that the prevalence and antibiotic-resistant of Campylobacter coli(C. coli) and Campylobacter jejuni (C. jejuni) are on the rise in Iran. To explain the prevalence and antibiotic-resistant of Campylobacter coli and Campylobacter jejuni, we reviewed related studies published from 2004 to 2017 in Iran.

Methods: We systematically searched biomedical databases (PubMed, Scopus, Google Scholar, and Web of sciences) to identify relevant studies from 2004 to 2017, either in English or in Persian. Out of 65 identified articles, 47 were published during 2004 - 2017.

Results: We found an increase in the prevalence of C. coli and C. jejuni in the animals (34.71%, 68.73%), food products (42.18%, 72%), and different clinical human samples (7.77%, 25.84%), respectively. This comprehensive review showed thatC. jejuniis the foremost species in Iran. Accordingly, antimicrobial resistance studies performed during 2004 - 2017 reported a high rate of resistance to several antibiotics like ciprofloxacin, nalidixic acid, and tetracycline, with the exception of gentamicin, neomycin, and chloramphenicol that had a low resistance rate.

Conclusions: According to the results, novel prevention and treatment strategies against C. coli and C. jejuni infections are recommended, and these data may help in revising treatment guidelines in aviculture, stockyard and decreasing the antimicrobial resistance in human society

Keywords: C. coli, C. jejuni, Prevalence, Antibiotic-resistant, Iran