

Understanding the prevalence of key food borne pathogens in selected poultry distribution networks from Gujarat-India

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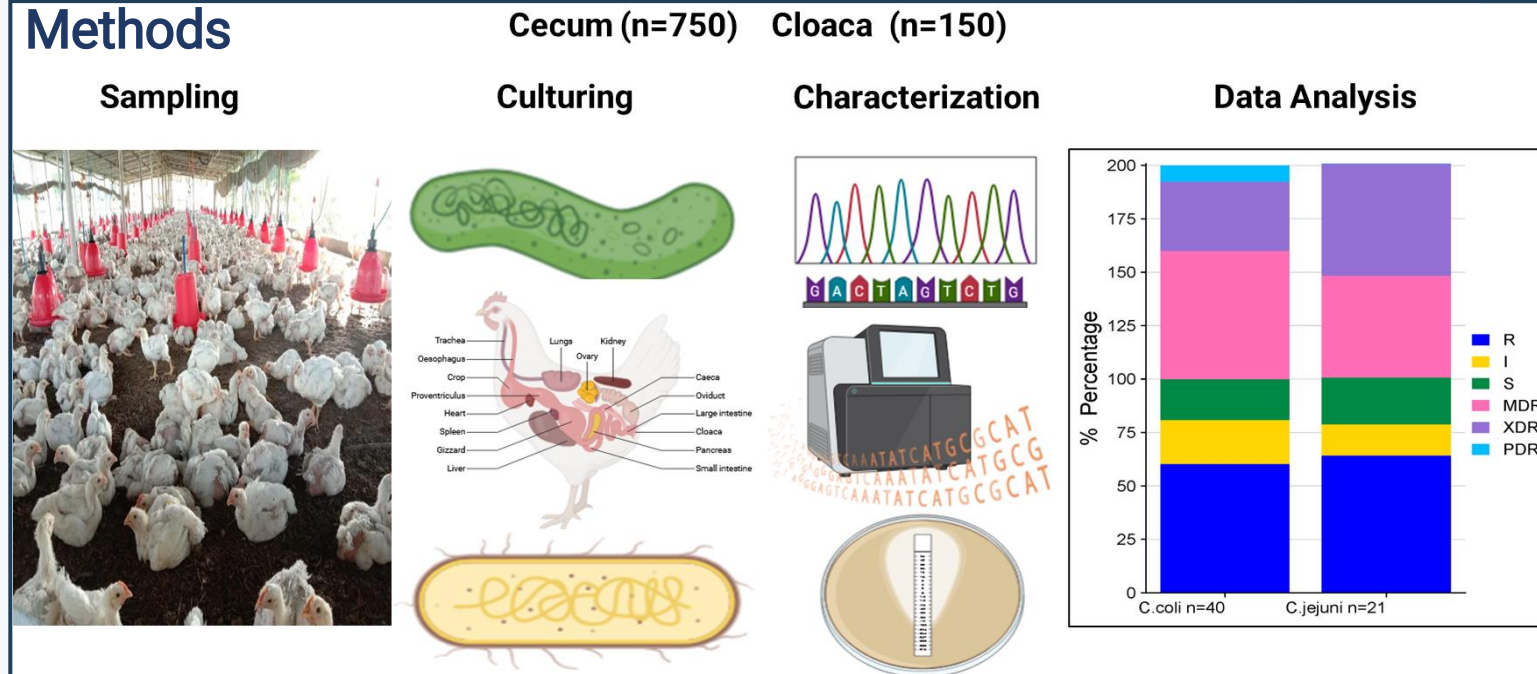
Introduction

- ❑ Poultry meat expected to represent 41% of total meat protein by 2030.
- ❑ Ensuring a safer food chain is crucial for addressing food security.
- ❑ *Campylobacter* and *Escherichia coli* are two common bacterial infections in poultry.
- ❑ These can be a significant foodborne pathogens, leading to infection in human when contaminated poultry products are consumed.
- ❑ Estimating the prevalence of these pathogens in poultry system is essential for understanding risk of food born disease transmission.

Objectives

1. To estimate the prevalence of *Campylobacter* and *E. coli* in poultry system on Gujarat-India.
2. To look in to the AMR profile of poultry pathogens.

Methods

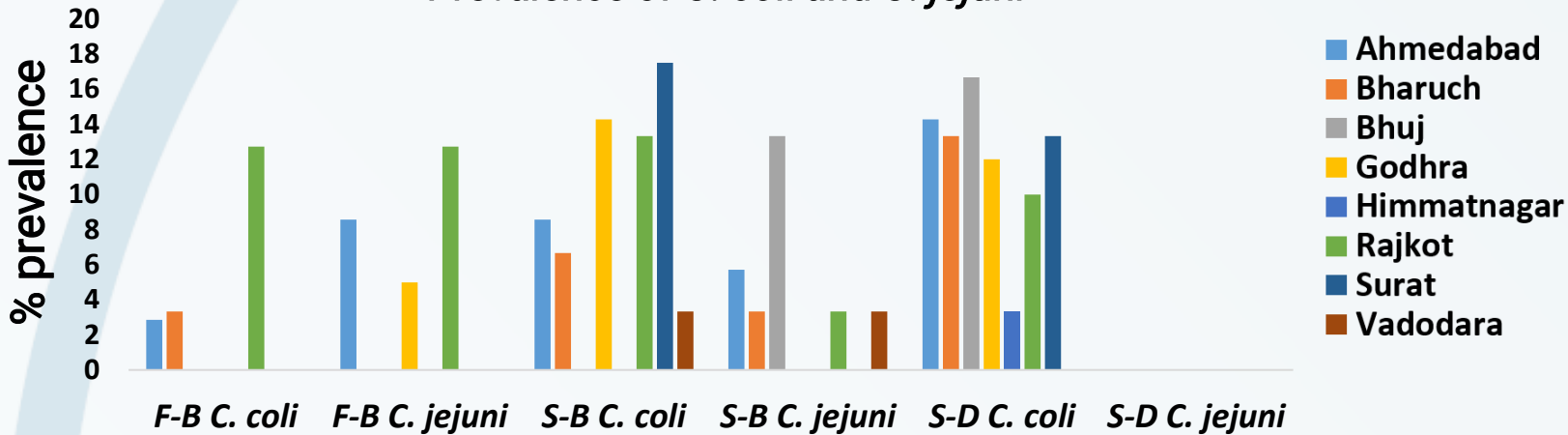


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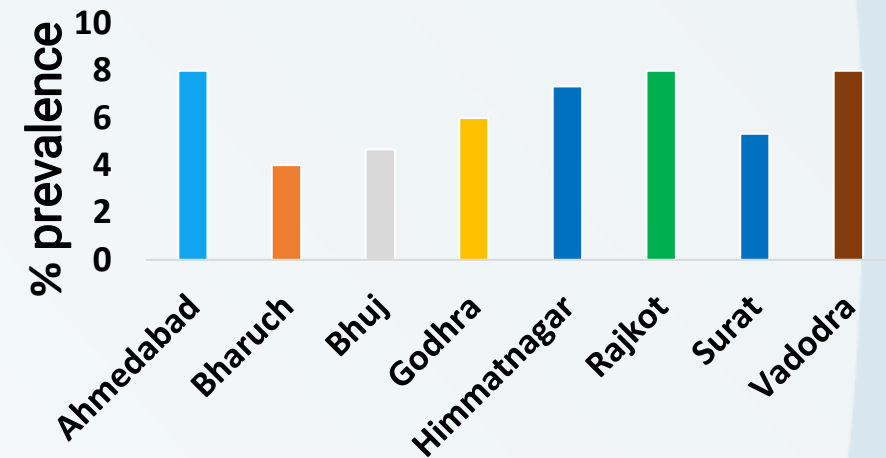
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Results

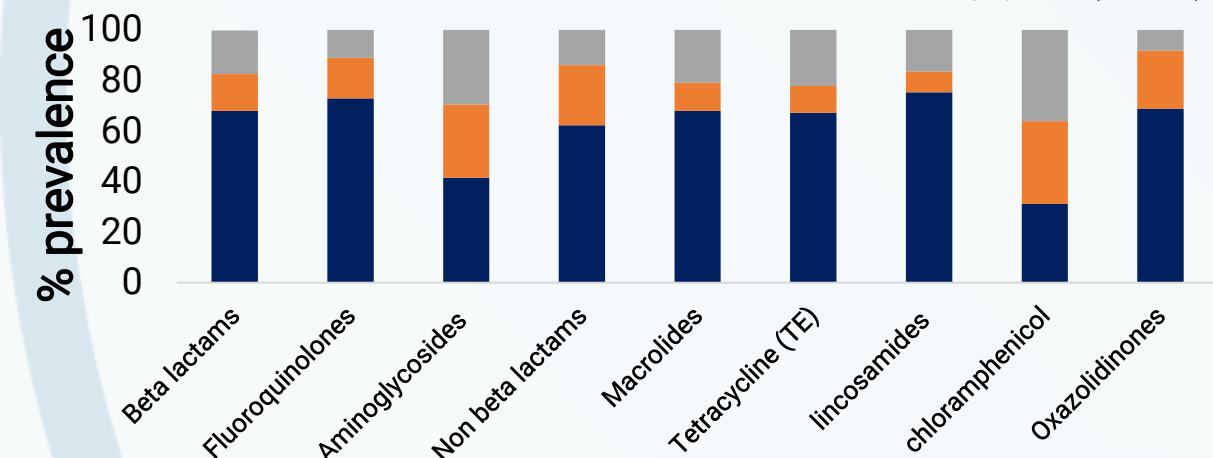
Prevalence of *C. coli* and *C. jejuni*



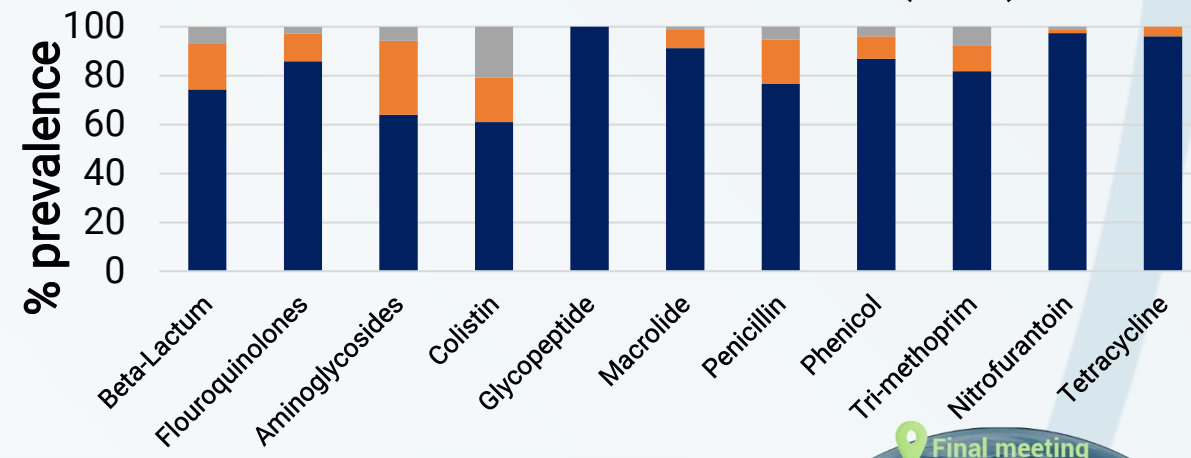
Prevalence of *E. coli*



Prevalence of Antibiotic Resistance in *C. coli* and *C. jejuni* (n=61)



Prevalence of Antibiotic Resistance in *E. coli* (n=77)

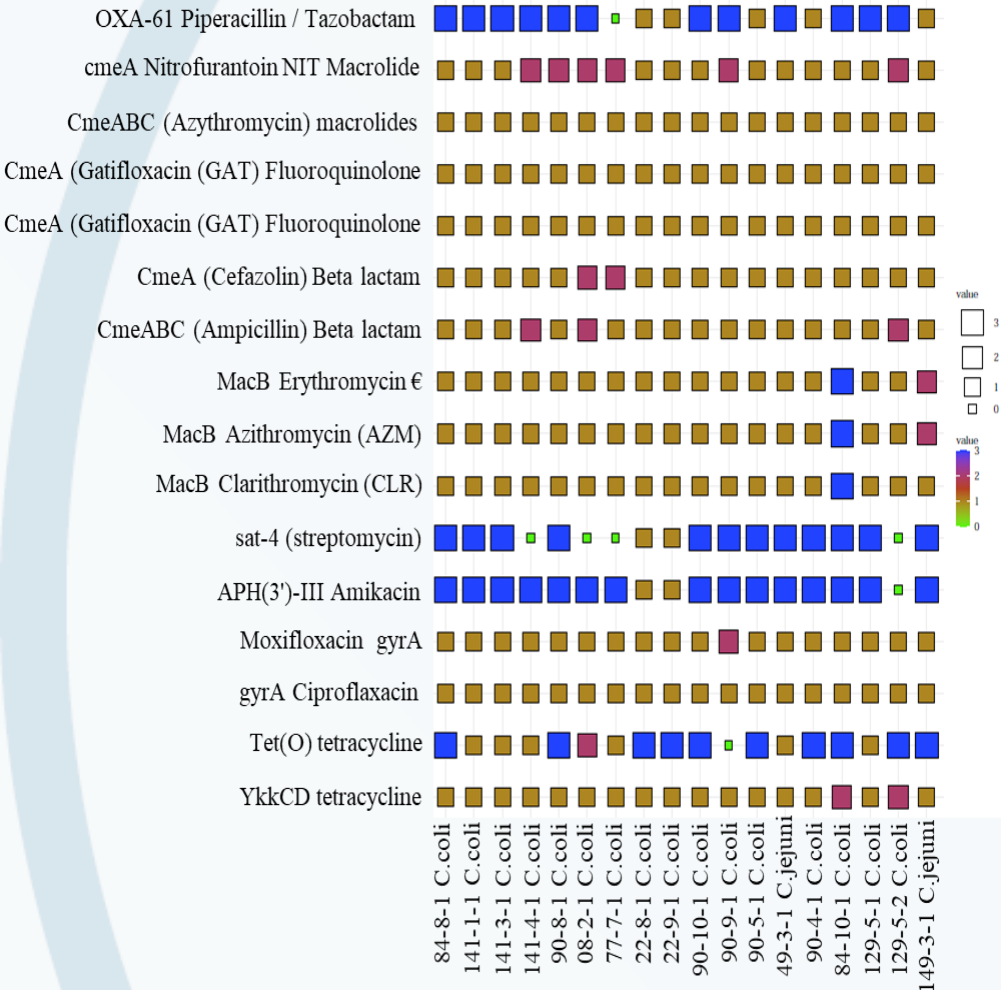


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Results

Phenotypic and Genotypic Concordance in Campylobacter



Campylobacter spp.:

Prevalence: 10.26% (*C. coli* 7.46% and *C. jejuni* 2.8%).

AMR profile: Highly resistant to Co-Trimoxazole and Piperacillin/Tazobactam
MDR (55.74%), XDR (39.34%) and PDR (4.92%)

Phenotypic and genotypic concordance: 76%

E. coli:

Prevalence; 51.33%.

AMR profile: Highly resistant to Vancomycin.
MDR (29.9%), XDR (61%) and PDR (9.1%)

Phenotypic and genotypic concordance: 95%

Conclusion

- Our study, particularly focused on the Gujarat region, revealed overall lower prevalence of *E. Coli* and *Campylobacter* spp. in this area.
- XDR and PDR was more in *E. coli* as compared to *Campylobacter* spp.
- Mechanism behind resistance or susceptibility to antibiotics could be explained to the tune of 95% and 76% respectively for *E. coli* and *Campylobacter* spp.

Acknowledgments

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