High erythromycin-resistant *Campylobacter jejuni* and *C. coli* among humans and chickens in Africa

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Introduction

- Human *Campylobacter* enteritis is a common bacterial foodborne illness globally. *C. jejuni* and *C. coli* are frequently implicated and are commensals in chickens.
- Human being acquires *Campylobacter* mainly through consumption or processing poultry meat as well as direct contact with chicken.
- The burden of antimicrobial resistant *Campylobacter* is increasing worldwide. However, there are limited data on the frequency of these resistant strains in Africa.

Objective

Estimate the pooled magnitude of erythromycin resistance in *Campylobacter jejuni* and *C. coli*.

Methods

- A systematic review and meta-analysis.
- PubMed, Google Scholar, Hinnari, and Google were used to accesses relevant articles in Africa.
- PRISMA checklist was followed.
- All data were extracted using data extraction format
- The quality of the articles was assessed.

Result

Table 1: Antibiotic profile of *C. jejuni* and *C. coli*

Antimicrobial used (No of article)	Pooled antimicrobial resistance rate (95% CI) among C. jejuni and C. coli	
	Campylobacter jejuni, % (CI)	Campylobacter coli, % (CI)
ampicillin	39.7% (28.9%-50.6%)	57.2% (38.1%-48.9%)
ciprofloxacin	21.2% (16.1%-26.4%)	18.3% (13.3%-23.4%)
erythromycin	51.0% (28.0%-74.0%)	54.0% (32.0%-75.0%)
gentamicin	41.1% (6.0%-76.1%)	18.3% (13.3%-23.4%)
tetracycline	39.2% (9.6%-68.8%)	41.5% (16.7%-66.4%)
amoxicillin-clavulanic acid	61.8% (33.5%-90.2%)	67.9% (54.6%-81.1%)
ceftriaxone	62.6% (67.0%-81.5%)	28.3% (16.9%-39.7%)
trimethoprim-sulfamethoxazole	80.4% (67.9%-92.8%)	78.2% (63.6%-92.9%)
norfloxacin	27.8% (22.1%-33.5%)	29.2% (-13.3%-72.2%)
nalidixic acid	47.8% (42.0%-53.5%)	28.0% (17.6%-38.4%)
chloramphenicol	65.6% (18.3%-112.9%)	71.6% (59.7%-83.5%)
azithromycin	78.8% (56.4%-101.2%)	82.7% (70.9%-94.5%)
clindamycin	-	-

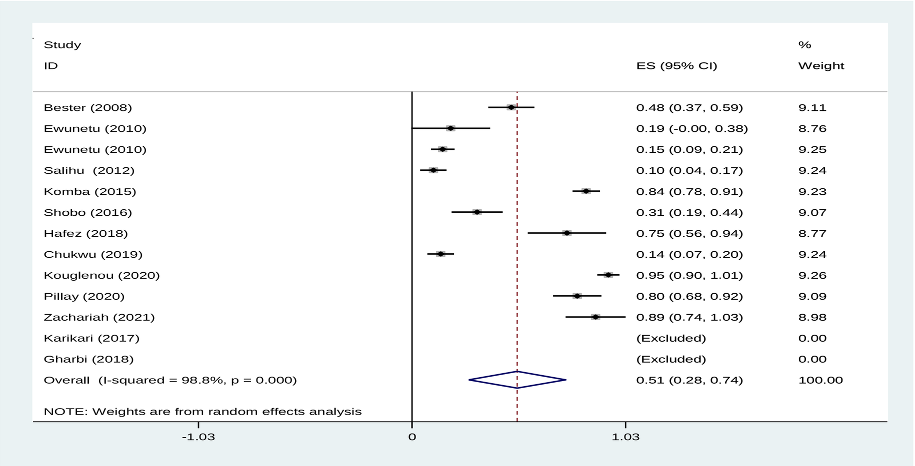

Fig 1: The magnitude of erythromycin resistance *C. jejuni*

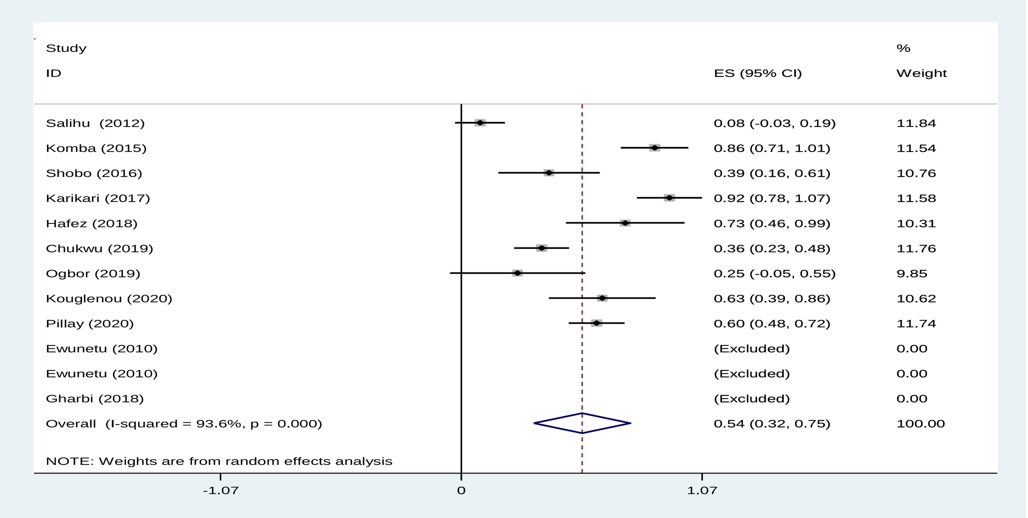

Fig 2:The magnitude of erythromycin resistance *C. coli*

Conclusion and recommendation

- We found a high pooled magnitude of erythromycin resistant *C. jejuni* and *C. coli* among isolates from both humans and chickens in Africa.
- More One Health research is needed to give a clear picture on the drivers of antimicrobial resistance selection and transmission dynamics of *Campylobacter* spp. in Africa, in humans, poultry and the environment.

Acknowledgment