

BACKGROUND

- Antimicrobial resistance (AMR) is a global public health concern and AMR may transmit to humans through the food chain.¹
- Human infection with antimicrobial resistant strains of *Campylobacter* may result in an increased risk of an adverse health event.^{2,3}
- Longer duration of illness
- Hospitalization, invasive illness or death
- Humans may be exposed to resistant *Campylobacter* from food, but to date, there is no systematic or scoping review of factors associated with infection with an antimicrobial-resistant strain.

RESEARCH QUESTION

What factors are associated with an antimicrobial-resistant (AMR) Campylobacter infection in humans?

METHODS

- Systematic Scoping review protocol followed Joanna Briggs Institute & PRISMA guidelines.⁴
- Protocol developed *a priori* and registered



SEARCH AND SCREENING

Analytical study, avai

Human Campylobac

Human exposure to Campylobacter strai tetracyclines, quinol susceptible to antimicrobials of interest)

RESULTS & IMPLICATIONS

8541 records identified through search strategy

- Factors were categorized into (1) animal contact, (2) prior antimicrobial use, (3) participant characteristics, (4) food consumption and handling, (5) travel, (6) underlying health conditions, and (7) water consumption/exposure.
- Factors linked to increased likelihood of infection with a fluoroquinoloneresistant strain included foreign travel and prior antimicrobial use.
- Most of the studies were conducted in a small number of **high-income**, westernized countries.
- Heterogeneity of the results and factor definitions provided a **broad overview**.
- Future research using an interdisciplinary, One Health approach is needed to prioritize important risk factors.



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Factors associated with antimicrobial-resistant Campylobacter species infections in humans: A scoping review

Databases searched: ProQuest[®] AGRICOLA, CAB Abstracts[®] and Global Health[®], Ovid EMBASE[®], Scopus[®], Ovid MEDLINE[®] + 3 Grey literature sources

Key search themes included: *Campylobacter*, antimicrobials, and antimicrobial resistance

Screening by two independent reviewers

The search was completed on February 5, 2020 and updated on May 7, 2021

Inclusion	Excl
ailable in English	Review articles, commentaries, opinarticles, book chapters, conference
cter infection confirmed by laboratory methods	Non-human research, infections oth colonization, infection not confirme
factors potentially associated with infection with in resistant to an antimicrobial of interest: macrolides, lones, or fluoroquinolones	Campylobacter strain resistant to al

Comparator group appropriate for study design (E.g. for case-control studies comparator group = infections with strains of Campylobacter

8527 records after duplicates removed

8089 records removed during title and abstract screening

removed during full text screening



Evans et al. 2009-UVA-F Tap water (any) Evans et al. 2009-UVA-F Still bottled water abroad Evans et al. 2009-MVA-F Still bottled water abroad

Engberg et al. 2004-UVA-F Public water supply (domestic) CSSSC et al. 2002-UVA-F Private water supply (domestic) Smith et al. 1999-UVA-Q Untreated water (domestic) CSSSC et al. 2002-UVA-F Filtered jug water (domestic) 02-UVA-F Bottled water (domestic) Bottled water (domestic) Still bottled water (any) Sparkling bottled water (any) Sparkling bottled water (any) Sparkling bottled water (domestic) Sparkling bottled water (domestic) CSSSC et al. 2002-UVA-F Mains water while travelling 2002-MVA-F Mains water while travelling CSSSC et al. 2002-MVA-F Mains water while travelling x Africa

Animal Contact Smith et al. 1998-UVA-Q Cha et al. 2016-UVA-F Cha et al. 2016-MVA-F Evans et al. 2009-UVA-F Evans et al. 2009-UVA-F

CSSSC et al. 2002 CSSSC et al. 2002-UVA-F Pet bird CSSSC et al. 2002-MVA-F Pet bird CSSSC et al. 2002-UVA-F Pet dog Evans et al. 2009-UVA-F

Domestic animal Domestic animal Own any pet Own rabbit or guinea pig Pet hamster Pet guinea pig Pet rodent Animal contact (unspecified) Animal contact (unspecified) Zoo animals

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