

# AB014. Does poor awareness of antimicrobial resistance among general public and health professionals lead to high prevalence of it? – a study in a Sri Lankan urban setting

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**Background:** Antimicrobial resistance can be the next global pandemic. Because of high population density, urban areas will be more vulnerable. Urban wild animals may be exposed to antimicrobials through livestock, humans, and the environment. Hence, they could act as reservoirs and indicators of environmental contamination. This study aimed to investigate the antimicrobial resistance profile in *Escherichia coli* isolated from livestock and wild animals in an urban ecosystem and to investigate the knowledge, awareness and perception of antibiotics and antimicrobial resistance among general public and health professionals in an urban setting in Sri Lanka.

**Methods:** A one-square kilometer area with potential antimicrobial resistance sources was selected. Freshly voided fecal samples were collected from livestock and wild animals. Isolation, identification of *E. coli* and antimicrobial sensitivity test was performed for 12 antibiotics according to standard protocols. A self-administered questionnaire was conducted among the general public and analyzed. Health professionals were interviewed by an independent

interviewer and analyzed using thematic content analysis.

**Results:** Out of all tested *E. coli* isolates, 54.4% and 46.7% isolates from livestock and wildlife were resistant to at least one antibiotic. The highest resistance was for Ampicillin (36%) followed by Tetracycline and Nalidixic acid. Only 26% of the general public had a good ability to identify antibiotics correctly and 40% of them thought they had poor knowledge on antimicrobial resistance. Ten major themes were identified including thoughts among health professionals regarding how antimicrobial resistance develops and spreads.

**Conclusions:** Antibiotic resistance was observed for commonly used antibiotics in both livestock and wildlife in urban ecosystems. Both health professionals and the general public showed poor awareness regarding how antimicrobial resistance develops and spreads. This lack of awareness can lead to AMR development. Therefore, it is important to educate both health professionals and the general public regarding antimicrobial resistance in said setting in Sri Lanka.

**Keywords:** Antimicrobial resistance; *Escherichia coli*; general public; health professionals

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## Footnote

*Conflicts of Interest:* The authors have no conflicts of interest to declare.

*Ethical Statement:* The authors are accountable for all aspects of the work in ensuring that questions related to the accuracy or integrity of any part of the work are appropriately investigated and resolved.

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