

High antibiotic use in poultry farms in the Kathmandu valley of Nepal: high time for National guidelines ¹

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Key Messages

- In this study involving 30 large poultry farms with over 100,000 chicken, the majority (90%) used antibiotics, indicating that this practice is widespread.
- “Highest priority and critically important antimicrobials” were being used risking to render these last-resort medicines ineffective for human and animal use.
- There is a need for national guidelines, effective alternatives to antibiotics (e.g. biosecurity and vaccination), and an improved national monitoring and surveillance system.

What is the problem and why is it important?

In poultry production, antibiotics are used as growth promoters, to prevent infections in crowded and poor hygiene conditions (prophylactic use), or to treat infections (therapeutic use).

Antibiotic use in poultry production contributes to antibiotic resistance in bacteria which can then be transmitted to humans and animals, thereby making antibiotics ineffective.

The Kathmandu valley is a major hub for poultry production where antibiotic use is common and could be a major factor in promoting antibiotic resistance. Here, we report on the practice of antibiotic use in large poultry farms.

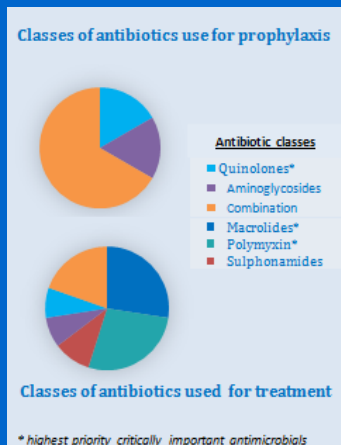
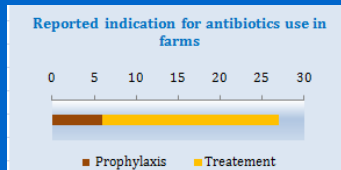
How did we measure it?

We used data from field visits and questionnaires from 30 large poultry farms (total flock size of over 100,000 chicken) in Kathmandu, Bhaktapur, and Lalitpur districts. Between August and December 2019, we collected data on types of antibiotics, quantities and purpose of use from the ‘in charge’ of each farm.

What did we find?

- The majority (90%) of poultry farms used antibiotics for poultry production. Six (22%) farms reported antibiotic use for prophylaxis

Large poultry farms have a flock size of at least 3000.



Highest priority and critically important antibiotics for use in humans (last resort antibiotics) are being used in poultry production.

and 21 (78%) for therapeutics. Eight farms (26%) using more than two antibiotics at a time.

- Six classes of antibiotics were used, including quinolones, macrolides, and polymyxins which are “highest priority critically important antimicrobials” for use in humans. This risks to render such last-resort antibiotics ineffective for human and animal use.
- None of the farms had written records on the indications for antibiotic use.

Implications

- Since almost all poultry farms used antibiotics, we conclude that this practice is likely to be widespread and will contribute to development of antibiotic resistance in humans, animals and the environment. This has implications on One Health.
- Since there are no national guidelines for antibiotic use in poultry farming, we call on the AMR multisectoral committee to urgently help bridge this gap. Awareness raising to reduce antibiotic use among farmers is also needed.
- Effective alternatives to antibiotics that enhance productivity include improved hygiene, preventing the transmission of diseases (biosecurity), and vaccination. These should be promoted in Nepal.
- We need to introduce a national monitoring and surveillance system and an antibiotic monitoring register for all poultry farms to improve the understanding of antibiotic use and reduce inappropriate use