

Antibiotic resistance in the food chain: A developing country-perspective

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Abstract

Antibiotics are now "endangered species" facing extinction due to the worldwide emergence of antibiotic resistance (ABR). Food animals are considered as key reservoirs of antibiotic-resistant bacteria with the use of antibiotics in the food production industry having contributed to the actual global challenge of ABR. There are no geographic boundaries to impede the worldwide spread of ABR. If preventive and containment measures are not applied locally, nationally and regionally, the limited interventions in one country, continent and for instance, in the developing world, could compromise the efficacy and endanger ABR containment policies implemented in other parts of the world, the best-managed high-resource countries included.

Multifaceted, comprehensive and integrated measures complying with the One Health approach are imperative to ensure food safety and security, effectively combat infectious diseases, curb the emergence and spread of ABR, and preserve the efficacy of antibiotics for future generations. Countries should follow the World Health Organization, World Organization for Animal Health, and the Food and Agriculture Organization of the United Nations recommendations to implement national action plans encompassing human, (food) animal, and environmental sectors to improve policies, interventions and activities that address the prevention and containment of ABR from farm-to-fork.

This study evidences the danger of ABR in the food chain and particularly in developing countries as a serious global public health threat. First, it assesses and summarizes background information on the emergence of ABR. Second it highlights transmission routes of ABR along the food chain; third, it compares the current status of ABR in food animals in developed versus developing countries and finally, it delineates prevention and containment measures of ABR from farm-to-fork.

Biography

Dr Luria Leslie Founou is Deputy CEO and Head of Research within the Centre of Expertise and Biological Diagnostic of Cameroon (CEDBCAM). She is a pharmaceutical microbiologist with diverse research interests. Her major works involve infectious diseases, zoonoses, the greatest challenge of antimicrobial resistance, its transmission to human via the environment and food chain (food safety and environmental health), and the foremost method of its containment, "One Health" approach. She is interested on the molecular epidemiology of resistant foodborne and environmental

pathogens, understanding of resistance mechanisms through genomic analyses, and prevention and containment measures of antibiotic resistance using the One Health approach to ensure food safety and security.

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