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Unravelling global challenges and innovations in antimicrobial resistance

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Abstract

Antimicrobial resistance (AMR) remains a formidable adversary in global health, contributing significantly to mortality from both nosocomial and community-acquired infections [1-6]. This talk aims to dissect the multifaceted nature of AMR, exploring its roots, ongoing global challenges, and innovative countermeasures being developed to mitigate its impact. Despite decades of awareness, AMR continues to escalate, driven by liberal antibiotic usage in humans and animals. I will elucidate how such practices have not only fostered the prevalence of super-drug resistant bacteria within clinical and community settings but have also extended the problem into the environment, creating domains where intervention is particularly challenging. Several pivotal challenges will be addressed, including the minute concentrations of antibiotics capable of selecting for resistance to socio-economic, health, and environmental determinants. In response to these daunting challenges, the scientific and regulatory communities have embarked on several promising initiatives such as the EU's prohibition on certain antibiotics for animal use. The talk will emphasize the necessity of a comprehensive strategy to manage and mitigate antimicrobial resistance (AMR) effectively. This approach encompasses enhanced diagnostics, robust antimicrobial stewardship, and innovative treatment options [6]. Additionally, it will stress the importance of raising societal awareness about antibiotic use, engaging the general public through citizen science projects to foster a broader understanding and proactive behavior towards AMR.

Keywords: antimicrobial resistance; drug-resistant bacteria; global health challenges; antibiotic policy

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References

1. OECD, Embracing a One Health Approach to Fight Antimicrobial Resistance, 2023.
2. WHO. Global report on the epidemiology and burden of sepsis: current evidence, identifying gaps and future directions, 2018.
3. EFSA Panel on Biological Hazards, *EFSA Journal*, 2021; 19, 6863.
4. EFSA Panel on Biological Hazards, *EFSA Journal,* 2021; 19, 6651.
5. Hendriksen R. S., Munk P., Niage P., Bunnik V. et al., *Nature Comm*., 2019, 10, 1124.
6. 2021 Antibacterial agents in clinical and preclinical development: an overview and analysis. Geneva: World Health Organization; 2022.