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Microbial resistance and the relationship between medicine and veterinary medicine

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ABSTRACT

Antimicrobials have revolutionized health by reducing mortality from infectious diseases worldwide. However, the inappropriate use of antibiotics contributes to the antimicrobial resistance process occurring in a shorter time and on a larger scale. This process can correlate human and veterinary medicine. Animals and humans can be affected by several microorganisms, and the spread of resistant pathogens can occur between species. When antimicrobial resistance occurs within the veterinary sector, it becomes a unique health concern because human and animal antibiotics are the same, making human treatments difficult and expensive. The World Health Organization (WHO), through the *Global Antimicrobial Resistance and Antimicrobial Use Surveillance System (GLASS) Report*, points out that antimicrobial resistance to agents responsible for nosocomial sepsis such as *Klebsiella pneumoniae* is greater than 50%. Agents such as *Escherichia coli* and *Salmonella spp.* show growth in resistance rates and about 15% between 2017 and 2022. Antimicrobial resistance is responsible for about 700 thousand deaths annually and there is concern about an increase in this value due to the Covid-19 pandemic, due to the higher consumption of antibiotics. In veterinary medicine, the occurrence of antimicrobial resistance is closely related to access to antibiotics without a professional prescription in farms and pet stores. Growth promoters for farm animals were used as preventives, however in 2020 this practice was banned in the national territory. Currently, the use of antibiotics without a previous antibiogram, misinformation from owners and metaphylactic uses are warning points within veterinary medicine. It is concluded that the occurrence of antimicrobial resistance within veterinary medicine is closely related to One Health.

Keywords: Antimicrobials, Control, One Health.

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REFERENCES

Marques, G. R., Santos, A. C. C., & Costa, M. T. (2023). Resistência bacteriana na medicina veterinária e implicações com a saúde pública. Veterinária e Zootecnia, 30.

Ministério da Agricultura, Pecuária e Abastecimento. (2020). Instrução normativa nº 1, de 13 de janeiro de 2020. Retrieved from https://www.gov.br/agricultura/pt-br/assuntos/insumos-agropecuarios/insumos-pecuarios/resistencia-aos-antimicrobianos/legislacao/INSTRUONORMATIVAN1DE13DEJANEIRODE2020.pdf

Pérez, D. Q. (2017). Resistencia antimicrobiana: evolución y perspectivas actuales ante el enfoque "Una salud". Revista Cubana de Medicina Tropical. Cuba.

Silva, L. O. P., Estavam, L. B., & Nogueira, J. M. R. (2024). Disseminação da resistência aos antimicrobianos no contexto de saúde única: uma breve revisão. Revista RBAC. Rio de Janeiro.

Teixeira, A. R., Figueiredo, A. F. C., & França, R. F. (2019). Resistência bacteriana relacionado ao uso indiscriminado de antibióticos. Revista Saúde em Foco, (11).

Organização Mundial da Saúde. (2022). Relatório global de resistência antimicrobiana e sistema de vigilância de uso Antimicrobiano. Retrieved from https://www.who.int/publications/i/item/9789240062702