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Popular Article

Awareness of Antimicrobial Resistance (AMR) among Veterinarians

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Abstract:

Antimicrobial resistance (AMR) poses a severe and escalating threat to global health, affecting both human and animal populations. Veterinarians, as the main prescribers of antibiotics in animal healthcare, play a vital role in tackling this challenge. This study evaluates the awareness and understanding of AMR among veterinarians, identifying factors that influence their antibiotic prescribing behaviours. Although veterinarians are generally aware of the significance of AMR, there are notable knowledge gaps in specific areas, such as resistance mechanisms, appropriate antibiotic usage guidelines, and the significance of surveillance initiatives. Barriers like inadequate training, economic constraints, and limited access to diagnostic tools often contribute to suboptimal antibiotic use. Strengthening awareness through improved education, antibiotic stewardship, and adherence to evidence-based protocols is essential in combating AMR in veterinary practice.

Keywords: AMR, Veterinarians, Antibiotic, Awareness, Barriers, Stewardship

Introduction:

Antimicrobial resistance (AMR), an emerging public health challenge is increasing worldwide Globally, it was estimated to cause 4.95 million human deaths in 2019. Furthermore, it is projected that by 2030, AMR could force up to 24 million people into extreme poverty and is likely to kill 10 million people per year by 2050. Bacterial AMR (antibiotic resistance) affects the globe negatively and accounts for appreciable challenges in treating human and livestock infections, food insecurity, and the weakened healthcare system. Antibiotics (one type of antimicrobials) are experiencing resistance in all fields of life (humans and animals), leading to increased morbidity and mortality worldwide. Of special concern is the reported resistance to many of the first-line antibiotics for treating bacteraemia and other life-threatening infections.

Importance of Awareness among Veterinarians:

- 1. Prevention of AMR Spread:** Veterinarians are at the frontline of preventing the misuse of antibiotics, which can lead to the development of resistant bacteria that can transfer between animals and humans (zoonotic transfer).
- 2. Animal Health and Welfare:** Proper use of antibiotics helps maintain animal health and welfare by treating infections effectively without contributing to resistance.
- 3. Public Health:** Reducing the emergence of resistant bacteria in animals helps decrease the risk of transmission to humans, ensuring the efficacy of antibiotics in treating human infections.
- 4. One Health Approach:** Veterinarians are part of the "One Health" approach, which integrates human, animal, and environmental health strategies to combat AMR.

Despite General Knowledge about AMR, Specific Gaps Remain, such as:

- **Awareness of AMR mechanisms:** Understanding how bacteria develop resistance and the implications for treatment.
- **Judicious use of antibiotics:** Awareness of the guidelines for the responsible use of antibiotics in different animal species and situations.
- **Surveillance and Reporting:** Knowledge about surveillance programs and the importance of reporting antibiotic use and resistance patterns.

Several Barriers to Effective AMR Awareness and practice, including:

- 1. Limited Training:** Veterinary education often lacks sufficient AMR training. Continuous professional development on AMR is essential but not always mandated.
- 2. Economic Pressures:** Farmers and pet owners may pressure on veterinarians to prescribe antibiotics to prevent financial losses from potential infections, even when such prescriptions may not be warranted.
- 3. Insufficient Access to Diagnostic Tools:** Limited availability diagnostic tests can result in empirical antibiotic use without pathogen identification, leading to inappropriate prescriptions.
- 4. Over-the-Counter Availability** In countries where antibiotics are available without a prescription, there is less control over their use, leading to misuse and higher risks of resistance.

Strategies to Enhance Awareness:

- 1. Enhanced Education and Training Programs:** Including AMR education as a core part of the veterinary curriculum and offering regular workshops and training for practicing veterinarians.
- 2. Guidelines and Protocols:** Developing and promoting evidence-based guidelines for the prudent use of antibiotics in different animal species.
- 3. Antibiotic Stewardship Programs:** Implementing antibiotic stewardship programs in veterinary practices, which focus on the appropriate selection, dosage, and duration of antibiotic therapy.

4. Promoting Diagnostic Testing: Encouraging the use of diagnostic tests before prescribing antibiotics to ensure targeted treatment.

5. Public Awareness Campaigns: Educating farmers, pet owners, and the public about the risks of AMR and the importance of following veterinary guidance on antibiotic use.

Global and Regional Initiatives:

- **World Organisation for Animal Health (WOAH):** Promotes the responsible and prudent use of antimicrobial agents in animals and provides guidelines to veterinary professionals.
- **World Health Organization (WHO):** Emphasizes the One Health approach, linking human, animal, and environmental health in combating AMR.
- **National Action Plans:** Many countries have developed action plans to combat AMR, including awareness and training programs specifically targeted at veterinarians.

Conclusion:

Enhancing awareness of AMR among veterinarians is crucial to controlling the spread of resistant bacteria. By integrating better training, diagnostic tools, and adherence to guidelines, veterinarians can significantly reduce inappropriate antibiotic use, safeguarding both animal and human health.

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