

Antimicrobial use and implementation of guidelines in UK small animal practice

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INTRODUCTION

There is new evidence of increasing antimicrobial resistance amongst important veterinary pathogens in small animal practice (Beever et al. 2014; Hordijk et al. 2013; Kataoka et al. 2013). Antimicrobial drugs are frequently prescribed to pets for common conditions in practice.

Antimicrobial agents authorised and used in dogs and cats are typically the same or of the same classes as antimicrobial agents prescribed in human medicine (WHO 2011; 2013). In addition, contact between pets and their owners can be frequent and close, providing opportunities for zoonotic transmission of bacterial pathogens. Responsible antimicrobial use and implementation of rigorous infection control measures in veterinary clinics are therefore critical and in the interest of public health.

This study sought information on antimicrobial use (AU) and observation of guidelines amongst small animal veterinary surgeons.

METHODS

Veterinarians were recruited to complete a questionnaire through the Bella Moss Foundation website (www.thebellamosfoundation.com) and face-to-face at the British Small Animal Veterinary Association (BSAVA) conference in Birmingham, April 2014. Participants were eligible for participation if they practiced in the UK with a case load of at least 50% dogs and cats. The survey assessed respondents' demographics, antimicrobial usage in practice including the use of antimicrobial susceptibility testing and prescribing behaviour, case frequency of multidrug-resistant infections, frequency of owner education on antimicrobial resistance and awareness of antimicrobial use and infection control guidelines, and how these were implemented in day-to-day practice.

RESULTS

Of the 165 respondents, 70.6% worked in first opinion small animal practice, 13.4% in first opinion mixed practice, the remainder in referral practice, referral hospitals or academia. Male vets accounted for 64% of participants compared with 50% of the UK veterinarian population in a Royal College of Veterinary Surgeons in 2010.

Written protocols on infection control were in place in 70% of practices. No written guidelines on AU were in place in 55% of respondents' practices but 92.4% were aware of such recommendations (Figure 1).

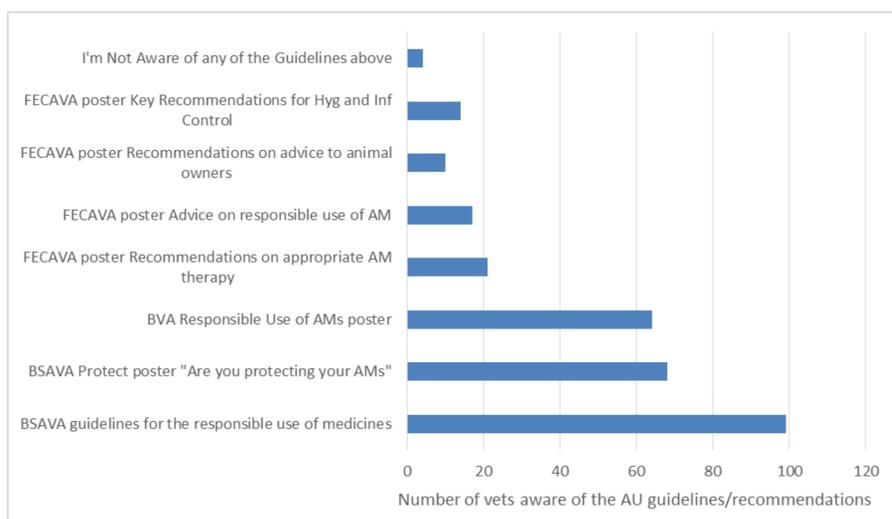


Figure 1: Awareness of vets of guidelines for antimicrobial use

Antimicrobial therapy was most frequently chosen empirically and patients were often weighed. Drug selection was principally influenced by target organ, expected pathogen, drug activity and ease-of-use. Almost half the participants (45.5%) stated they would discuss the risk of increasing antimicrobial resistance with owners but felt that concern about antimicrobial resistance was infrequent amongst pet owners (Figure 2).

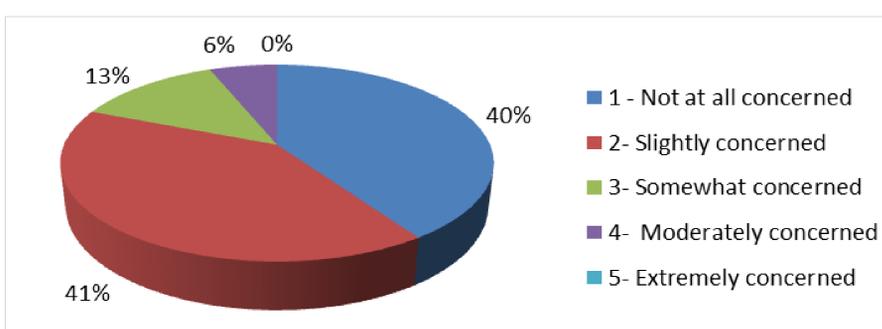


Figure 2: Vets' perception of owners' concern about antimicrobial resistance (n=116)

Amoxicillin-clavulanic acid was first choice drug for respiratory (34.4%), cutaneous (25.5%) and musculoskeletal conditions (34.2%), followed by doxycycline, cefalexin and clindamycin for these conditions. Gastrointestinal conditions were most often (32.2%) initially treated without antimicrobials while for periodontal disease and pyometra cases antimicrobials were often chosen against recommendations (Figure 3). Overall, for the 30 most common clinical conditions, amoxicillin-clavulanic acid was followed by metronidazole, clindamycin and cefalexin (7-8% each) while veterinarians stated the use of fluoroquinolones (enro- and marbofloxacin) in 5-7% of cases.

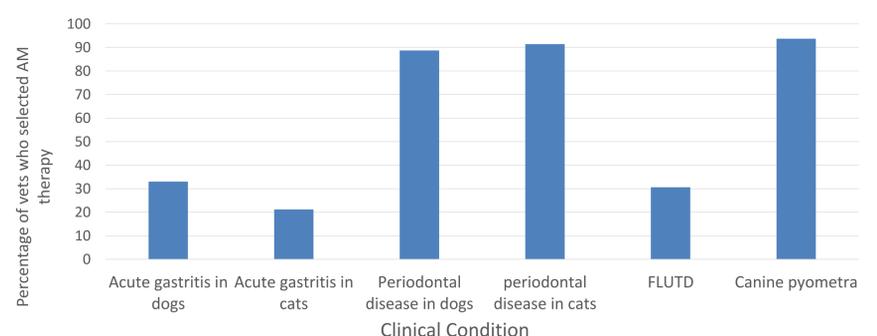


Figure 3: Percentage of veterinarians selecting no antimicrobial therapy for conditions where no antimicrobial therapy is indicated according to FECAVA or BSAVA guidelines. FLUTD: Feline Lower Urinary Tract Disease.

Conclusion

Although there was interest in responsible AU amongst small animal veterinarians and selection of agents for conditions broadly reflected current recommendations, evidence of comprehensive decision-making processes for antimicrobial therapy was lacking. Further education on implementation of responsible AU is urgently needed.

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