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Letter to Vet Times

How can vets help? Pet parasiticides pollution in urban waters

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Recent publications reveal how chemicals used in companion animal parasiticides, such as imidacloprid and fipronil, are present at alarming levels in waterways across the UK. While parasiticides are important for treating pets affected by parasitic disease, there is concern that their widespread use contributes to chemical pollution that is having a negative impact on biodiversity.

In 2018 the neonicotinoid pesticide imidacloprid was banned for agricultural use due to evidence of its ecotoxic effects. Widespread usage in companion animals continues, having been approved on the assumption that the quantities used pose negligible environmental risk. It is becoming increasingly clear that this assumption does not hold up to scrutiny.

Researchers are concerned that contaminated water and the accumulation of toxic residues in soils and sediments may be affecting many non-target species including invertebrates such as mayflies and other insects, amphibians and fish, putting our delicate ecosystems at risk.

Fipronil and imidacloprid are found at their highest levels in urban surface waters where pets are densely concentrated and, most strikingly, just downstream from the outflows of domestic wastewater treatment plants. Recent data from the UK Water Industry supports the conclusion that the main source of this contamination is not the swimming referred to in the datasheets, but wastewater: suggesting that down-the-drain pathways such as washing of hands, clothes, pets and their bedding are major contributors to surface water pollution.

The March 2023 Briefing Note from the Grantham Institute at Imperial College entitled 'Are urban areas hotspots for pollution from pet parasiticides?' gives some useful recommendations that we outline here:

1. Reduce prophylactic use of parasiticides:

Prophylactic use should be reserved for cases where pets are at a high risk of infestation – for example, a history of flea allergy dermatitis or repeated infestations. Beyond this, parasiticides should only be used when parasites are known to present in, or on, the pet. The British Veterinary Association has supported a move away from blanket treatment policies and instead encouraged individual vets to have informed discussions with their clients (BVA, 2021).

The incidence of ill-health in adult pets associated with pet parasites is largely unknown and data from the NHS and PHE suggests that the oft-repeated risk of zoonotic infection is actually very low indeed.

Diverting clinic revenue streams from product sales to a combination of parasite testing before treatment and/or carrying out clinical risk assessments before prescribing could rapidly result in significant reductions in environmental load with parasiticide residues, whilst maintaining practice income.

2. Campaign for better product labelling and assessment:

Vets can choose which products they stock, sell or advise clients to use. This gives opportunity to engage with pharmaceutical suppliers via sales reps for better labelling of products with clear and prominent instructions for their safe use and disposal.

We can use our influence as a responsible profession to lobby the regulatory bodies to require transparent publication of improved environmental risk assessments and maintain or where necessary support tighter controls on the sales of parasiticides.

3. Reduce emissions:

It's important to emphasise that owners should follow datasheet guidelines on the correct administration of parasiticides - including waiting intervals before touching, bathing or allowing pets to swim following spot-on application - but we should also support calls to ensure that these guidelines are evidence-based and sufficiently protective. We should also support calls for improved guidance on the safe disposal of used vials of liquid products and of unused products.

4. Support research on the responsible use of pet parasiticides:

Individual practicing vets are unlikely to be in a position to carry out or directly sponsor further large-scale research but good quality clinical records that detail parasite load and any associated health impacts observed will help when researchers need to extract anonymised data on pet health. Our research group would be very happy to hear from any vets in practice who are keen to help with this work.

5. Alternative methods of parasite control:

Visual checks, flea combs and tick hooks can be effective means of identifying and removing fleas and ticks before resorting to chemical treatments. There is a good deal of discussion around the use of non-prescription, 'natural' or eco-friendly products for parasite control, but there is a lack of evidence of efficacy to support their use. As a profession we can support calls for the development of specifically targeted and rapidly biodegradable alternatives.

6. Raise awareness:

We are all familiar with the concept of One Health: that human, animal and environmental health are inextricably linked. We also know that the healthcare we dispense can impact the environment, both in terms of the energy and materials we use, the diets we recommend, how we and our colleagues travel for our work and the very real potential for chemical pollution with medicines.

If, as the recent BVA survey showed, 89% of veterinary staff want to do more for sustainability, one way is to make sure that One Health is part of the everyday narrative of all the clinical, business and social decisions we make in our clinics. Our clients are already in the mindset of paying for our opinions on the health of their pets: let's make sure that in our direct contact with the public and our use of social media that we discuss health also in terms of its impact on the environment.