

Flea and tick control: innovative approaches to owner compliance

Author : Hany Elsheikha

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ABSTRACT

With the advent of modern flea and tick preventives, management of companion animal ectoparasites is now possible in animals that have access to these preventive medications. However, achieving good owner compliance has been an enduring challenge for the veterinary profession and not received much attention, suggesting owner compliance does not occupy the forefront of clinical interest. Management of fleas and ticks using ectoparasiticides is particularly affected by poor compliance because any failure to follow the prescribed treatment protocols prevents the control of environmental stages of these parasites, which undermines the efficacy of any preventive treatment programme. Enhancing owner compliance can offer enormous potentials in improving the management of flea and tick infestations by informing better decisions and aiding in the early identification of failing products.

However, owner compliance is a complex issue and there is usually no single intervention that enhances the compliance of all pet owners. Enhancing the vet-client relationship and implementing awareness campaigns and educational programmes seem to be the most reasonable approaches to improve compliance. The success of such interventions will have to take into consideration the owner's circumstances, expectations and needs. Achieving this requires more efforts, which are often not practicable for busy veterinary surgeons. This article discusses how various compliance-enhancing interventions can be applied to manage the complexities associated with compliance and to facilitate their implementation in the clinical setting.

Pet owner compliance can be defined as the proportion of clients who adhere to veterinary recommendations and prescribed treatment protocols.

Even though ectoparasiticide compliance is the cornerstone of effective control of fleas and ticks, not all pet owners comply with the flea and tick treatment protocols recommended by their veterinarians.



An integrated approach to implement compliance-enhancing strategies.

Poor treatment compliance is a well-recognised problem and has been investigated in previous studies (Barter et al, 1996a and b; Adams et al, 2005; Stull et al, 2007; Gates and Nolan, 2010). Many pet owners don't realise the dangers and consequences of ignoring or interrupting treatment, and most are not aware of options that could make administering medications more convenient for them and their pets.

On the other hand, veterinarians may be reluctant to discuss parasite control with clients because of a lack of knowledge on the subject, inability to appreciate a client's expectation and level of education, inadequate time during appointments or an increasing dependence on broad-spectrum anti-parasitic drugs as a substitute to proper client education (Harvey et al, 1991; Zajac et al, 2000).

A need clearly exists for the veterinary profession to be more proactive in communicating the risks of parasitic diseases and benefits of preventive treatments to clients. In this article, the author explores the various determinants of non-compliance and the impact on flea and tick preventive treatment use. He also discusses how compliance can be influenced by the vet-client relationship and how owner compliance can be improved.

Benefits of compliance

The majority of veterinarians believe compliance could have a positive impact on their practice. If a client experiences a problem due to non-compliance, he or she would probably hold the practice responsible and doubt the capability of the veterinary team in the practice. In certain

circumstances, an unhappy client could share his or her negative experience with others, which could affect the reputation of the practice, with potential financial implications.

Compliance can be of huge benefit to not only the practice, but also the client in terms of cost-savings and improved treatment outcomes. Besides the obvious impact on pet health, poor-compliant or non-compliant pet owners can increase the risk of their pets developing difficult-to-manage infestations, such as flea infestation, which can also impact on the client's health. These parasites feed on pets and owners and, in doing so, can transmit many pathogens that cause serious diseases.

Clients also need to appreciate good compliance, to achieve effective management of fleas and ticks, is important because it is usually more expensive to resolve a problem than prevent it and the cost of treatment can be significantly high if the prophylactic measures have not been implemented. Understandably, some pet insurance companies may not pay if a preventive strategy has not been followed. Non-compliance is also a serious problem to pharmaceutical firms because it might compromise the reputation and perceived efficacy of some drugs, such as anti-flea products.

Flea treatment – challenges and opportunities

In recent years, the presence of fleas on pets after application of flea products has led to questions of resistance. However, no conclusive evidence exists of flea resistance in the field. Even where resistance genes are known to exist in laboratory strains of flea, fipronil, selamectin and spinosad have all been shown to be efficacious (Bass et al, 2004; Dryden et al, 2013). The question then arises as to why resistance is perceived to be present when this is not the case in practice. Well, in some cases, fleas will still be present, despite the use of efficacious products. The perceived failure of fleas' control programmes can be attributed to some factors that are interrelated and are linked to non-compliance in one way or another.

These include the following:

- Not treating all animals in the home. If all susceptible animals (dogs, cats, ferrets and rabbits) are not treated at the same time, the opportunity arises for fleas to breed and control programmes will fail
- Not treating the environment. Without treatment of the environment some flea infestations will take many months to eliminate
- Lack of management of expectation. Heavy infestations of fleas may take at least three months to eradicate, even when environmental treatment is used (Dryden et al, 2000)
- Not treating pets frequently enough. Probably because advice provided may be inaccurate, misinterpreted or not followed

Flea infestations on pets and in homes are an increasingly common problem in the UK due to the

mild winters, reservoir populations in centrally heated homes and the persistence of fleas in the environment, which make efforts to eliminate infestations hard to achieve. For flea elimination programmes to be successful, adult fleas must be killed on the animal before they can take a blood meal, reproduce and produce eggs. A number of growth regulators and environmental spray insecticides are also useful at controlling environmental populations. These sprays contain a larvicide/ovicide and a growth inhibitor.

However, no product can kill pupae in the environment, thus effective rapid killing of adults is required to break the life cycle. Many oral and spot-on products on the market contain a variety of active ingredients. However, it does not matter whether a drug is a topical or oral; what matters is the drug's residual speed of kill or residual activity – in other words, the ability to kill newly acquired fleas and ticks days or even weeks after application of the product. Besides the residual effects, onset of action, spectrum of activity, ease of application and frequency of bathing are also important factors in choosing which ectoparasiticide product is the best choice for individual patients.

Maximising pet owner compliance

Poor compliance is not only limited to medications, but also takes other forms, including the failure to keep appointments, follow recommended lifestyle changes or follow other aspects of treatment or recommended preventive protocols. The actual implications of non-compliance, therefore, go far beyond the cost of medications.

How many clients do you think are aware of the importance of compliance? Apparently, not many. The following describes some of the factors that can affect compliance and suggests compliance-enhancing interventions that can be employed by veterinary professionals. It is hoped these interventions would enhance owner compliance, reduce economic losses and empower animal health care providers to better manage ectoparasitic infestations.

Make it simple

Everyone in the veterinary profession knows complexity of a treatment regimen can affect compliance. Indeed, compliance improves remarkably when the prescribed medicine is a tablet that can be administered once a day or a spot-on that can be applied without any effort from the owner or stressing the animal. In this regard, a longer-acting drug (wherever possible), or a tablet that has more than one drug, can be advantageous. Also, it is important for veterinarians to use simple, everyday language and have the pet owner repeat the instructions to ensure his or her complete understanding.

Understand pet owner perceptions

It is important to address a patient's understanding and perceived ability or skills to administer the

treatment as instructed. Likewise, it is important to manage a client's expectation – especially when it comes to the management of fleas and ticks at home, which isn't only complex, but also difficult. Even when effective control measures are used, flea infestations may take months to eliminate and, if this is not made clear to clients, they may become disappointed. Hence, good advice must be given to pet owners in terms of recommending efficacious products and correct method and frequency of application.

The owner preference in terms of the use of spot-on preparations or tablets should be considered. Clients should also have the opportunity to address their queries and concerns.

Explain to owners flea control forms part of wider parasite control requirements, such as ticks and worms. Veterinary professionals should ensure owners perceive the risks associated with a lack of adopting the instructions, perceive inadequate management of fleas and ticks to have serious impact on the pet's health and believe in the positive effects of adhering to the recommended treatment to their pets. By knowing which of these perceptions is below the necessary level of good adherence, the animal health care provider can tailor interventions to suit the needs and expectations of each client.

Maintain effective communication

Communication with owners involves face-to-face verbal communication, sending mail, telephone reminders or using smartphone apps. Despite its effectiveness, face-to-face communication does not always work as it should do. Perhaps this is because pet owners leave their veterinarians' offices not exactly knowing what they have been told. Also, lack of proper communication or inaccurate information from owners might make it difficult for veterinarians to get the message across.

A simple plan for effective communication would be to send clients a reminder when their pets' treatments are due to be administered and to tell them why you need to see them; tell them again during the consultation and recap with the nurse or receptionist afterwards. Good communication skills have been well-recognised by the veterinary profession and have become part of the requirements of [educational programmes for veterinarians and veterinary nurses](#).

Communicate relevant knowledge



Remind owners when their pet's treatment is due and the best way to administer medicine. Inform them during the consultation and recap with the veterinary nurse or receptionist.

It is reasonable to expect pet owners' understanding of the condition and treatment of their pets is directly related to adherence, and that adherence, satisfaction and understanding are all related to the amount and clarity of information they receive. Pet owners do not always understand prescription instructions and often forget considerable portions of what the veterinarian or veterinary nurse tells them. Pet owners who understand the purpose of the treatment are more likely to adhere to the instructions than those who do not.

Veterinary professionals can provide effective pet owner education by:

- limiting instructions to about three or four main points
- using simple, persuasive, everyday language, especially when explaining diagnosis and giving treatment instructions
- supporting verbal instruction with written materials
- involving other members of the family, if possible
- reinforcing the facts discussed – this will be even more important for pet owners with low literacy skills, elderly owners or owners with special needs (for example, having visual impairments, hearing difficulties or mobility problems)

The more informed owners are about the consequences of non-compliance, the less likely they will ignore the prescribed treatment regimens of their pets.

Consider demographic variables

It is important to find out whether there is an association between an owner's compliance and gender, educational experience, marital status, occupational status, economic status and ethnic or cultural background. The effects of these variables can be mitigated by tailoring the instructions to an owner's level of understanding and individual's circumstances. Veterinarians should find out

what type of antiparasitic products owners prefer and why.

Ease of administration and palatability are important considerations for oral products. While oral products have grown in popularity, many pet owners still prefer to use topical products. Products either effectively kill adult fleas and ticks, and eggs and larvae, or have the added benefit of repelling these parasites. Some pet owners prefer using a flea/tick product that can repel ticks before they can even bite or feed on the pet.

Veterinarians should not make assumptions about the owner's financial situation or his or her ability to finance a preventive programme. The decision as to whether a prescribed course of treatment or a year-round monthly preventive treatment is affordable should be down to the client, not the staff in the practice. The role of the staff is to educate and provide enough information for the client to make the correct decision.

Evaluate adherence

It is imperative to assess owner compliance constantly. In general, owners can be accurate in reporting whether they are adhering to the prescribed treatment protocols if they are asked simple and direct questions – for example:

- Do you ever forget to give the animal the medication?
- When you feel your pet becomes better, do you stop giving it medication?
- When you feel clinical signs of your pet become worse, do you stop giving it medicine?

Regular assessment of client adherence by itself can increase compliance.

Educate staff and owners

Every practice staff member should have a full understanding of what drug products are available and how they should be used, so he or she can reinforce the message given by the veterinarian. Equally important is the education of clients, which can be done during the consultation, in discussion with a well-trained nurse, or by making sure enough literature is available in the waiting room.

In this digital era, ensure your practice website has plenty of useful information. Although clients are often told they should control fleas and ticks on their pets, they are not always told why. Owners who understand the reasons why their pets should receive certain treatment, and the benefits of using a recommended product rather than cheaper alternatives, are more likely to be compliant.

Owners should be informed it does not take long for a severe flea infestation to occur. It only takes a female flea one day to begin laying eggs, and at 40 to 50 eggs daily. Also, inform owners by the

time they see a tick it can be too late to prevent disease transmission. Veterinarians can do more than just instruct clients on how to use flea and tick-preventive products. In fact, many owners want their veterinarians to inform them on which products to use, including safety and spectrum of activity, ease of administration and options among oral or topical products.

Summary

Pet owner compliance or adherence to prescribed treatment protocols can lead to a better outcome for patients. This article has aimed to increase the awareness of this complex issue and propose new ways to enhance owner compliance. These include informing pet owners of the risks associated with non-compliance, giving pet owners simple, detailed instructions, prescribing medications that are effective and easier to administer, providing automated reminders and increasing communication and follow-up with the owners.

Ask a pet owner about his or her feelings and concerns (in addition to examining the physical conditions of the animal) and his or her personal view on the adherence, so as to arrive at a common understanding to the nature of the problem of non-compliance. Provide owners with information they need to know in an easy to understand format and let them decide. Most importantly, encourage them to engage in the decision-making process when a flea or tick management plan is formulated. Finally, compliance is a team effort – encourage all staff to play an active role in promoting compliance.

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