

Dog Owners Preferences for Preventive Antiparasitic Treatment for Their Dogs: A Discrete Choice Experiment (DCE) in the UK

zoetis Dog Owners Preferences for Preventive Antiparasitic Treatment for Their Dogs: A Discrete Choice Experiment (DCE) in the UK

Dominick R. Deault, Magdalena Bebrysz, Andrea Wright, Michelle Greaves, Gemma Hopkins, Edwina Gildea and Samuel Aballéa
Zoetis, Kirkland, Canada, Creativ-Ceutical, Kraków, Poland, Zoetis, Parsippany, NJ, USA, Zoetis, Leatherhead, UK, Zoetis, Leatherhead, UK, Zoetis, Leatherhead, UK, Creativ-Ceutical, Rotterdam, Netherlands, Netherlands

Background
External parasites can cause substantial distress and economic burden to pet owners. Antiparasitic treatments are available to help veterinarians

Methodology
The DCE methodology using a D-efficient design with 2 blocks of 27 questions was used to assess dog owners' preferences regarding antiparasitic treatments. The study was conducted in three steps: [1] qualitative research to select relevant attributes of antiparasitic prevention treatments for dogs are identified based on a review of product characteristics and interviews with veterinarians and dog owners. [2] a pilot study to refine the DCE questionnaire was used to a small number of respondents (i.e. dog owners). Subsequent questions were also performed with the participating pet owners to evaluate the questionnaire. [3] the main study in which the participants were recruited via a consumer panel in UK. The survey was performed online. The participants were asked to choose between the products of two hypothetical products for multiple questions (Figure 1). The utility scores were calculated for each respondent. The utilities were the marginal utility values attached to attribute levels. These values indicate which level of an attribute is preferred, and can also be compared between attributes to determine which characteristics contribute more than others to preferences between alternative product profiles. The analysis of responses to the survey was performed using multi-level logit (MNL) models. The standard deviations and SDs provide a measure for the marginal utility estimates were calculated to provide the variability of results. Willingness to Pay (WTP) represents the degree of preference for an attribute level in the context of money that dog owners would be willing pay for a product with this characteristic rather than another. It was derived from marginal utility estimates.

Results
Analysis development: A total of 6 dogs owners were interviewed. Pilot study: 8 tested 17 dog owners were recruited for the pilot study. Clear responses were included from analysis after verification of consistency of preferences. Main study: The survey was completed by 188 dog owners. Of all owners, 25 were not included due to failure on both treatment choice tests. A total of 163 respondents were included in the analysis. The majority (52.8%) of participants were female, 77.8% used to either or no antiparasitic, 90.2% had given an antiparasitic treatment to their dog before, and 25.8% had obtained an antiparasitic treatment for their dog at the veterinarian's office in the past 6 months. The estimates of relative preferences (marginal utilities) of treatment characteristics are presented in the below figure.

Key highlights
The utility scores, as shown in the below figure, demonstrate that of profiles relative of existing treatments (currently available at the veterinarian's office, the treatment with the characteristics of moderate effectiveness + applied (Spray-on Topical, Zoetis, Parsippany, NJ, USA) was preferred.

Figure 1: example of the product's profile as presented to the participant pet owners
Imagine you must choose between the products in the table below. Take a moment to review the bottom of the table. You can

Conclusion
A broad spectrum of action (covering external parasites and larvae) in addition to flea and tick, moderate effectiveness, and easy per administration are key drivers for choosing antiparasitic products among dog owners. A more specific (i.e. more targeted) spectrum is preferred over broad-spectrum spectrum, but not as important as compared to other characteristics. These findings may be important for veterinarians to consider when recommending antiparasitic treatments to owners of dogs.

CONTACT AUTHOR GET POSTER

Dominick R. Deault ,Magdalena Bebrysz, Andrea Wright, Michelle Greaves, Gemma Hopkins, Edwina Gildea and Samuel Aballéa

Zoetis, Kirkland, Canada, Creativ-Ceutical, Kraków, Poland, Zoetis, Parsippany, NJ, USA, Zoetis, Leatherhead, UK, Zoetis, Leatherhead, UK, Zoetis, Leatherhead, UK, Creativ-Ceutical, Rotterdam, Netherlands



PRESENTED AT:

Virtual Poster Sponsor: **PHAR**

VIRTUAL ISPOR 2021

BACKGROUND

External parasites can cause cutaneous lesions and anaemia, induce immunopathological responses, and transmit pathogens, causing distress to pets and their owners. Internal parasites (e.g., heartworms, lungworms, hookworms, roundworms) can infect the connective tissue and vascular systems of animals, leading to fatal outcomes. Antiparasitic treatment is complex because there are many antiparasitic products, each having a specific spectrum of action and dog owners have a limited understanding of parasiticides. The aim of this study was to investigate the characteristics of antiparasitic treatments available at veterinary offices to help veterinarians understand what pet owners value when selecting parasiticides for their dogs.

FIGURE1 : EXAMPLE OF THE PRODUCT'S PROFILE AS PRESENTED TO THE PARTICIPANT PET OWNERS

Imagine you must choose between two anti-parasitic treatments for your dog(s), Treatment A and Treatment B, as described in the table below.

Take a moment to review the characteristics of each treatment, and then indicate which treatment you would choose at the bottom of the table. You can also answer that you would not choose any of the presented treatments.

	Treatment A	Treatment B
Type of parasites that the product treats	Treats ticks, fleas and intestinal worms	Treats ticks, fleas, intestinal worms and lungworm
Treatment schedule	Given once a month	Given once a month
Veterinarian recommendation	Recommended by your veterinarian	No recommendation by your veterinarian
Where the treatment can be obtained	Available through a veterinarian and other channels	Only available through a veterinarian
Mode of administration	Chewable tablet given at any time with or without food	Spot-on to be applied on dog's skin
Cost per administration	£ 6	£ 13
	I prefer treatment A <input type="checkbox"/> I prefer treatment B <input type="checkbox"/> I would not use any of these treatments for my dog <input type="checkbox"/>	

METHODOLOGY

The DCE methodology using a D-efficient design with 2 blocks of 12 questions was used to assess dog owners' preferences regarding antiparasitic treatments.

The study was conducted in three steps:

- (1) qualitative research, in which relevant attributes of antiparasitic preventative treatments for dogs are identified based on a review of product characteristics and interviews with veterinarians and dog owners;
- (2) a pilot study, in which the DCE questionnaire was tested on a small number of respondents (i.e., dog owners). Debriefing sessions were also performed with the participating pet owners to validate the questionnaire.
- (3) the main study, in which the participants were recruited via a consumer panel in UK. The survey was performed online. The participants were asked to choose between the profiles of two hypothetical products for multiple questions (figure 1). The profile utility was a sum of marginal utility of their attributes. The outcomes are the marginal utility values attached to attribute levels. These values indicate which levels of an attribute are preferred, and can also be compared between attributes, to determine which of characteristics contribute more than others to preferences between alternative product profiles.

The analysis of responses to choice tasks was performed using multinomial logit (MNL) models. The standard deviations and 95% credible intervals for the marginal utility estimates were calculated to present the variability of results.

Willingness To Pay (WTP) expresses the degree of preference for an attribute level as the amount of money that dog owners would be willing to pay for a product with this characteristic rather than another. It was derived from marginal utility estimates.

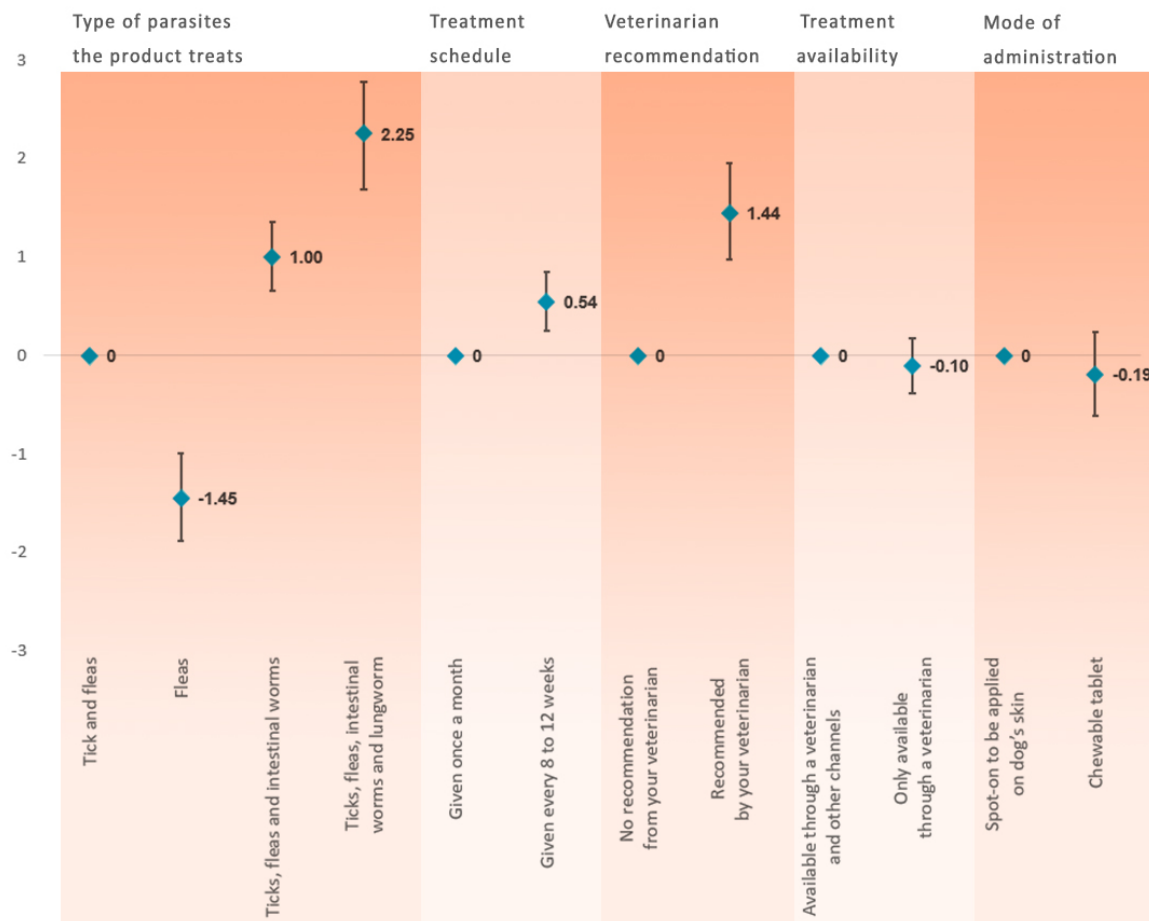
RESULTS

Attributes development: A total of 6 dogs owners were interviewed.

Pilot study : A total of 17 dog owners were recruited for the pilot study. One respondent was excluded from analysis after verification of consistency of preference.

Main study: The survey was completed by 160 dog owners. Of all records, 25 were not included due to failure on both dominant choice tasks. A total of 135 responses were included in the analysis. The majority (56.3%) of participants were female, 77.8% lived in urban or suburban areas, 90.4% had given an antiparasitic treatment to their dog before, and 45.9% had obtained an antiparasitic treatment for their dog at the veterinarian's office in the past 6 months.

The estimates of relative preference (marginal utilities) of treatment characteristic are presented in the below figure



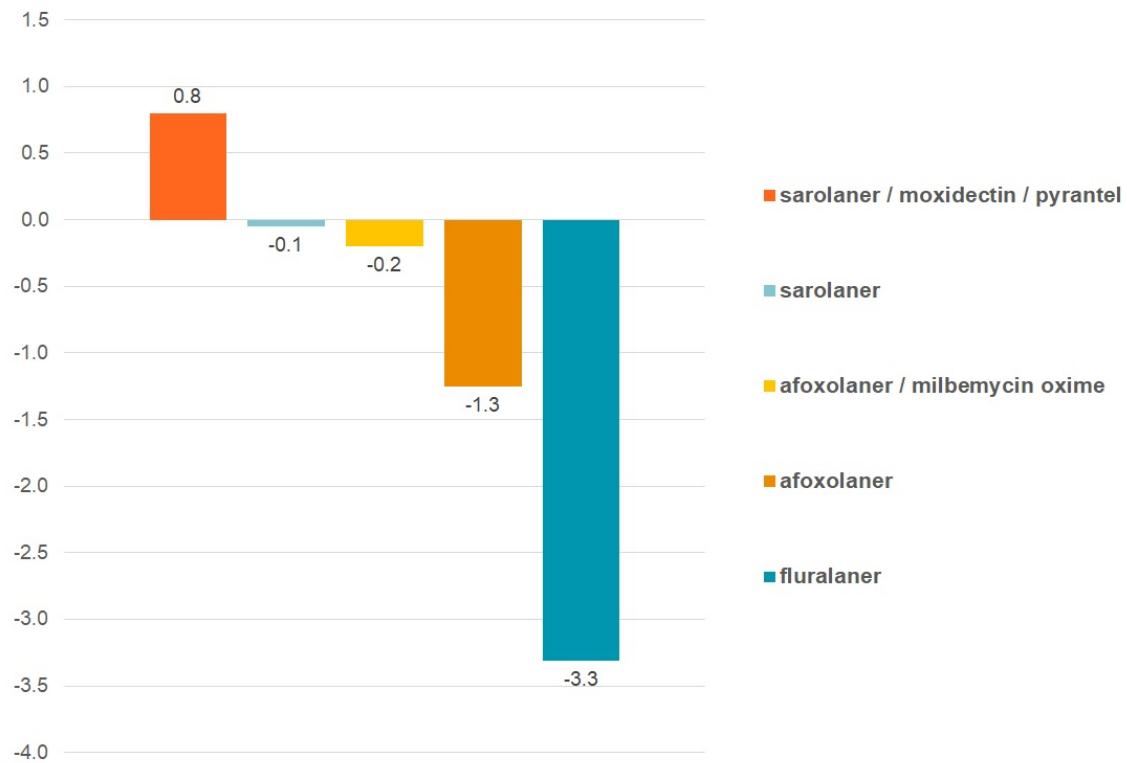
The results of the model showed that

- 1) The spectrum of action is the most important driver of preference.
- 2) Recommendation of the product by the veterinarian was also strongly preferred treatment characteristic in comparison to not giving any recommendation.
- 3) The treatment schedule was a factor taken into consideration when deciding on treatment.

4) Dog owners were willing to pay £11.22 (95% CI, £7.88–15.98) [€ 12.68 (95% CI, €8.91-18.06); \$15.38 (95% CI, \$10.80-21.90)] more for a product protecting from ticks, fleas, intestinal worms, and lungworm than for a product protecting from ticks and fleas only.

KEY HIGHLIGHTS

The utility scores, as shown in the below figure, demonstrates that of profiles reflective of existent treatments commonly available at the veterinarian's office, the treatment with the characteristics of sarolaner + moxidectin + pyrantel (Simparica Trio™, Zoetis, Parsippany, NJ, USA) was preferred



CONCLUSION

A broad spectrum of action (targeting intestinal worms and lungworm in addition to fleas and ticks), veterinarian recommendation, and price per administration are key drivers for choosing antiparasitic products among dog owners. A once-every-three-months treatment schedule is preferred over the once-monthly schedule, but it is not as important in comparison to other characteristics. These findings may be important for veterinarians to consider when recommending antiparasitic treatments to owners of dogs.