

COMPARISON OF METHODS TO ASSESS COMPLIANCE OF DOG OWNERS WITH SHORT-TERM ANTIMICROBIAL MEDICATION

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There is much written about compliance and health care in the human literature. The extent of non-compliance is large and the effect of non-adherence with medical regimens is a serious problem. Veterinary client compliance has not been studied extensively. There are only four published studies, all of which look at short-term antimicrobial use in dogs¹⁻⁴. The assessment of compliance is complicated and bias can be introduced as a result of the particular method of measuring compliance that is used. The ideal method has been described as being one that is non-invasive, practical, objective, and unobtrusive⁵. Because no one measure is available that meets all of these criteria, more than one method is often used in compliance studies. While data from the human literature suggest that electronic medication monitoring devices can provide valuable information on dose timing⁶, one veterinary study³ suggests that a combination of client self-report and return medication count may be a less costly alternative. By comparing methods of estimating compliance, this study assesses whether the combination of self-report and pill count is as reliable as electronic monitoring in veterinary medicine.

Materials & Methods

In the present study, owners of dogs who were prescribed antibiotics for an acute, uncomplicated bacterial infection were recruited. Owners of eligible cases were identified at the time of initial visit to their veterinarian. These owners were given an introductory letter at the time of discharge with prescribed antibiotics. The letter invited the client to participate in a "Review of Veterinary Services in Companion Animal Practice" and asked that they bring in all of their medication bottles to the re-examination visit (in ~ 2 weeks). The attending veterinarian was asked to complete a questionnaire and predict owner compliance. At the time of the follow-up visit, owners who agreed to participate were given a consent form to read and a questionnaire to complete while a pill count was performed and the electronic dosage

monitoring device was collected. At the second visit, the attending veterinarian was asked to complete a treatment outcome assessment form. Owners were debriefed once they turned in their completed questionnaire. The purpose of this study was to describe the degree and variability of client compliance, to determine whether veterinarians can predict client compliance, and to identify elements of the veterinarian-client-patient relationship and the human-companion animal bond that affect veterinary client compliance.

Results

The research plan and preliminary findings will be presented. Several measures of compliance will be used (Table 1). The degree of compliance will be reported, with descriptive statistics, for each measure of compliance. Electronic medication monitoring will use the Medication Event Monitoring System (MEMS). A MEMS device (APREX, a Division of AARDEX Ltd., Union City, California) is a prescription bottle cap which contains microelectronics that records the date and time of day each time the bottle is opened. The emphasis was on comparing compliance as measured by client interview, return medication count, electronic monitoring, and veterinarian prediction, using agreement and correlation.

Table 1. Compliance measures

Method	Compliance Measure	Formula for Calculation
Client self-report	Proportion of prescribed doses claimed to have been administered	$\frac{\# \text{ scheduled doses} - \# \text{ doses reported missed}}{\# \text{ scheduled doses}}$
Return pill count	Proportion of prescribed doses administered	$\frac{\# \text{ tablets dispensed} - \# \text{ tablets returned}}{\# \text{ tablets prescribed}}$
Electronic monitoring	Proportion of prescribed doses administered	$\frac{\# \text{ container openings}}{\# \text{ scheduled doses}}$
	Pattern of daily dosing	# days during the treatment period on which correct, fewer, or more than the prescribed # doses were given
	Optimum interval for dose timing	$\frac{\# \text{ interdose intervals in near optimum time period}}{\text{total } \# \text{ dose intervals during treatment period}}$
Veterinarian's prediction	Veterinarian's estimate	Scale from 1 (predict to be highly non-compliant) to 5 (predict to be highly compliant)

References

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