

VACCINATION PRACTICES IN DOGS AND CATS IN THE VETERINARY HOSPITAL AT UNESP - JABOTICABAL / SP

PRÁTICAS DE VACINAÇÃO EM CÃES E GATOS NO HOSPITAL VETERINÁRIO DA UNESP-JABOTICABAL/SP

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SUMMARY

Vaccination is essential for the control of various infectious diseases, zoonoses, and preservation of animal health. Dogs and cats depend on their owners for vaccination practices, but little is known about their knowledge about vaccination programs to which their pets must be submitted, or regarding vaccination protocols. To better understand the level of knowledge of the owners on the subject, as well as get a profile of these animals and their owners, a survey was performed with 142 pet owners who brought their pets to the veterinary hospital at UNESP, Jaboticabal, SP. Results are described with statistical analysis of frequency, correlations and comparisons between the responses of dog and cat owners. It was concluded that most pets in this population are vaccinated and the owners are aware about vaccination protocols. Many pets are not vaccinated by veterinarians. There is no correlation between age and health status of pets with vaccination. Education is one of the factors that can influence the percentage of pets vaccinated, but family income and home environment do not influence that.

KEY-WORDS: Animals. Owner. Survey. Vaccine.

RESUMO

A vacinação é fundamental para o controle de várias doenças infecciosas, de zoonoses e para a manutenção da saúde dos animais. Os cães e gatos dependem de seus proprietários para a realização de tais vacinas, mas pouco se sabe sobre o conhecimento destes acerca dos programas de vacinação aos quais seus cães e gatos domiciliados devem ser submetidos, nem com relação aos protocolos de vacinação. Para buscar conhecer melhor o grau de conhecimentos dos proprietários sobre o assunto, bem como traçar um perfil desses animais e seus proprietários, realizou-se uma entrevista com 142 proprietários de cães e gatos atendidos no hospital veterinário da UNESP, campus de Jaboticabal, SP. Os resultados foram analisados com estatísticas de frequência, correlações e comparações entre as respostas dos proprietários de cães e gatos. Pode-se concluir que a maioria dos cães e gatos desta população são vacinados e que os protocolos de vacinação são de conhecimento da maioria dos proprietários. Muitos animais são vacinados por profissionais não especializados. Não há correlação entre a idade e estado de saúde dos animais com a realização de vacinas. A escolaridade é um dos fatores que influencia o percentual de vacinas realizadas, enquanto a renda familiar e o ambiente domiciliar não influenciam.

PALAVRAS-CHAVE: Animais. Proprietário. Questionário. Vacina.

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INTRODUCTION

Dog and cat owners are the link between vets and animals and responsible for the pets general care to maintain them in good health. It is the responsibility of owners and veterinarians to control infectious diseases through vaccination. However, knowledge about vaccination practices, access to information and the socioeconomic status of the owners are determining factors for the adequate approach regarding animal immunization and disease prevention.

The pet population of dogs and cats in Brazil is large, with a dog:inhabitant ratio of 1:2.3 to 1:5.1 and cat:inhabitant of 1:12.1 to 1:30.6 (NUNES et al., 1997; DIAS et al., 2004; ALVES et al., 2005; BRANCO et al., 2008; LAGES, 2009; SILVA et al., 2010), varying according to the population studied. This high population density, the close proximity between pets and owners, the lack of data about the extent of animal owners understanding about vaccination schedules in Brazil and the need to prevent diseases in cohabiting animals and humans motivated the development of this study. Thus, the aim of this study was to obtain further information on vaccination practices performed in pet dogs and cats, to assess the knowledge extent of the owners on the subject, and to correlate these factors with family income, education and home environment of the respondents.

MATERIAL AND METHODS

In order to obtain the desired information, for a period of 30 days, the owners of dogs and/or cats treated at the Veterinary Hospital of UNESP, Jaboticabal, were asked to answer a questionnaire. The owners were interviewed, regardless of medical history presented by the animal. When the owner had more than one dog or more than one cat, it was requested that the answers provided were individualized based on only one of the animals. Thus, we applied one or more questionnaires to the same owner, depending on how many animals he had.

The questionnaire was prepared using conventional techniques (REA & PARKER, 2002), consisting of 15 easy to understand objective multiple choice questions. Issues regarding vaccination practices for pet dogs and cats were addressed, such as age and health status of the animals, owners' knowledge about vaccination, the cost of vaccines and socioeconomic status of respondents.

For validation of the questionnaires, a prior pilot study was conducted with 10 dog owners and 10 cat owners, in order to assure the adequacy of questions and to train the interviewer as to avoid systematic differences in data collection. Each interview, conducted only upon owner consent, lasted an average of six minutes.

The questions were read by the interviewer and, when necessary, the alternatives for the response were clarified. The information obtained was recorded on paper, then coded and tabulated in Microsoft Excel

spreadsheets for further analysis of the data and description of the results.

Statistical analysis of frequency was performed. The differences between the frequencies of respondents' answers were tested by binomial test for two independent samples. For correlations between the questions Spearman correlation coefficient was used. The tests were performed with a significance level of 0.05.

This study was approved by the Ethics Committee of the Universidade Federal do Espírito Santo.

RESULTS AND DISCUSSION

Overall 142 interviews were conducted with owners of dogs and cats, of which 115 owners (81%) answered the questionnaires about dogs and 27 (19%) about cats.

In this population, 42% of dogs were older than 7 years, 47% between 1 and 7 years and 10% less than 1 year. Among cats, 30% were older than 7 years, 48% between 1 and 7 years and 15% less than 1 year. The remaining respondents (1% of the owners of dogs and 7% of cat owners) could not tell the age. These results determined that most of the animals were adults as seen in other epidemiological studies (TORIBIO et al., 2009; SILVA et al., 2010).

Regarding their animal's health, 34% of dog and 63% of cat owners considered their pets healthy. Furthermore, 58% of dogs and 26% of cats were judged healthy, but with occasional problems, and 8% of 11% of dogs and cats were considered ill. It was observed that the older the animal, the higher the number of owners who considered their animals sick ($r_s = 0.18$, $P = 0.03$).

In general, both dogs and cats should be vaccinated as puppies and annually to prevent diseases that may compromise their health (AAFP, 2006; AAHA, 2011). In this study, specific questions were asked about rabies vaccination and clustered questions about other vaccines due to the variety of combinations that exist in the Brazilian market in relation to other diseases.

According to respondents, 91% of dogs and 85% of cats were vaccinated against rabies (Fig. 1). There was no significant difference between rabies vaccination frequencies of dogs and cats ($P = 0.33$). These values differed from the result reported by Lages (2009) in the same city, where the percentage of rabies vaccinated dogs ranged from 83 to 85% and cats from 39 to 45% depending on the neighborhood. However, the proportion of cats and dogs vaccinated against rabies in this study was greater than that found in Barabacena, MG where 89% of dogs and 68% of cats were vaccinated (SILVA et al., 2010). Polls in other countries also showed lower percentages: 70% of dogs and 36% of cats were vaccinated in Thailand (KONGKAEW et al., 2004), 85% of dogs in Bolivia (SUZUKI et al., 2008). It is noteworthy that this study was conducted with owners who brought their pets to

the veterinary hospital, unlike other works (KONGKAEW et al., 2004; SUZUZI et al., 2008; LAGES, 2009; SILVA et al., 2010). This could explain the higher percentage of animals vaccinated against rabies, considering that owners attending veterinary hospitals are instructed to vaccinate their animals.

According to the respondents, 81% of dogs and 70% of cats had been vaccinated in the last rabies vaccination campaign conducted by the municipal council, indicating that public campaign of rabies vaccine has a major influence on disease control. Lages (2009) reported that the vaccination conducted in Jaboticabal, in 2006, reached from 49% to 78% of dogs, varying according to the neighborhood. The rabies vaccination campaign conducted by the city of Jaboticabal - SP proved to be more comprehensive than the campaigns elsewhere: 74% of dogs and 55% of cats in Barbacena, MG (SILVA et al., 2010), 30% of dogs in Araçatuba, SP (NUNES et al., 1997), 44% of dogs in Thailand (KONGKAEW et al., 2004), and 52% of dogs in Bolivia (SUZUKI et al., 2008).

Each veterinarian can establish a vaccination protocol for dogs and cats, but some requirements determined by international vaccination guidelines (AAFP, 2006; AAHA, 2011) should be followed. The vaccination guidelines for dogs (AAHA, 2011) recommend mandatory vaccines against rabies, distemper, infectious canine hepatitis and parvovirus. The vaccination guidelines for cats (AAFP, 2006) recommend mandatory vaccines against feline type-1 herpesvirus, calicivirus and feline panleukopenia virus.

When dog owners were asked about other vaccines in addition to rabies, 71% reported that their

dogs were vaccinated. This result differs from that reported by Lages (2009), wherein the percentage of dogs vaccinated against other diseases than rabies ranged from 23% to 32%, according to the neighborhood in Jaboticabal. This variation could also be explained by the difference between the populations, given that the respondent in this study was in the premises of a veterinary hospital unlike the ones interviewed by Lages (2009). Polyvalent vaccines, such as the V8 that protects against parvovirus, canine distemper, adenovirus type 2, parainfluenza, and Coronavirusis two strains of leptospirosis, or V10 that protects against 2 more strains of leptospirosis were given to 79% of dogs (Figura 1). Canine influenza vaccine was administered in 6% of dogs while against giardiasis in 3% (Figura 1). Twelve percent of the owners could not inform which other vaccine the pet received in addition to rabies. The small percentage of animals vaccinated against giardiasis and canine influenza is not worrisome, since they are not considered mandatory vaccinations for dogs (AAHA, 2011). Among the 62 dogs vaccinated against other diseases in addition to rabies, 85% of them were vaccinated annually while 88% were vaccinated by a veterinarian and 12% by non-specialist professional. Fifty-six percent of cat owners reported that their pets were vaccinated against other diseases in addition to rabies, a lower percentage than that found by Toribio et al. (2009) in Australia, where 90% of pet cats were vaccinated. This difference may be due to the greater involvement of owners with their animals in more developed countries, where the government encourages responsible ownership of animals.

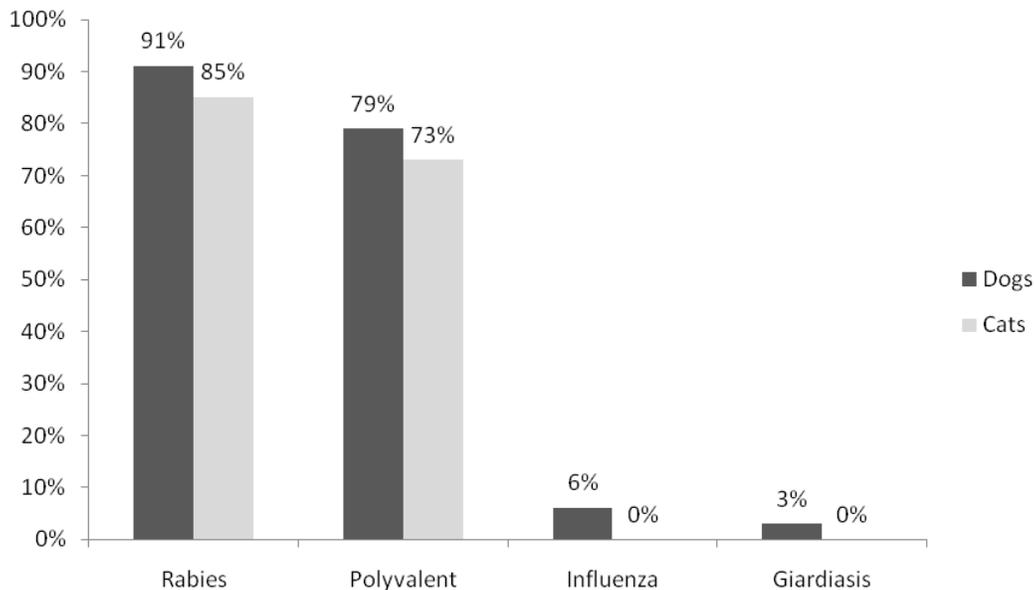


Figure 1 - Percentage of dogs and cats vaccinated according to information given by dog (n = 115) and cat (n = 27) owners.

Among the cats vaccinated against rabies and other diseases, 73% of them used polyvalent vaccines, such as the triple vaccine that protects against panleukopenia, calicivirus and rhinotracheitis, or quadruple, which also protects against chlamydiosis (Figura 1). The rest (27%) could not tell the type of vaccine used. Among those vaccinated, 69% reported annual vaccination of their cats, 81% said that cats were vaccinated by a veterinarian and 19% by a non-specialist professional. According to the results, dogs were given more vaccines annually, in addition to rabies than cats ($P = 0.03$).

There was a number of both dogs and cats vaccinated by non-professionals and the percentages were not significantly different ($P = 0.1$). The percentages may be considered high, since veterinarians are the only professionals able to attest to the vaccination of animals, in accordance with Resolution n.844 of September 20, 2006, from the Federal Council of Veterinary Medicine. Thus, veterinarians should instruct the owners about the importance of having a professional vaccinating their pets.

The age of dogs and cats was not significantly correlated with the administration of either rabies ($rs = -0.17$, $P = 0.04$) or polyvalent ($rs = 0.06$, $P = .43$) vaccine. Unlike the study by Toribio et al. (2009) that showed a correlation between the age of the cats and the realization of vaccines, younger cats received more vaccines. There was no significant correlation between

animal health and either polyvalent ($rs = 0.02$, $P = 0.78$) or rabies ($rs = 0.02$, $P = 0.73$) vaccination.

The owners were also asked about revaccination of dogs and cats. All owners of cats and 98% of dog owners were aware of the necessity of annual vaccination against rabies (Figura 2). However, even with these results, 30% of cat owners do not vaccinate their pets against rabies. Regarding other vaccines, 77% of dog owners and 74% of cat owners were aware of the need for annual boosters, and a greater number of dog owners (89%) compared to cat owners (59%) knew of the need to give three doses for puppies ($P = 0.0002$) (Figura 2).

As for the cost of the vaccine, 21% of dog owners considered it high, 44% medium and 18% low and the remainder did not know. Among cat owners, 48% considered it high, 22% medium and 15% low and the remainder did not know. Furthermore, cat owners considered it more expensive to vaccinate their pets compared to dog owners ($P = 0.0037$).

Questions about education, family income and household environment of the respondents were asked in an attempt to correlate with the other information obtained in the questionnaire. Most respondents (82%) had secondary and higher education, 11% between 5th and 8th grade, 6% were illiterate or up to fourth grade of elementary school. According to the data obtained, the more educated the respondents, the higher the percentage of vaccination against other diseases in addition to rabies ($rs = -0.32$, $P < 0.0001$).

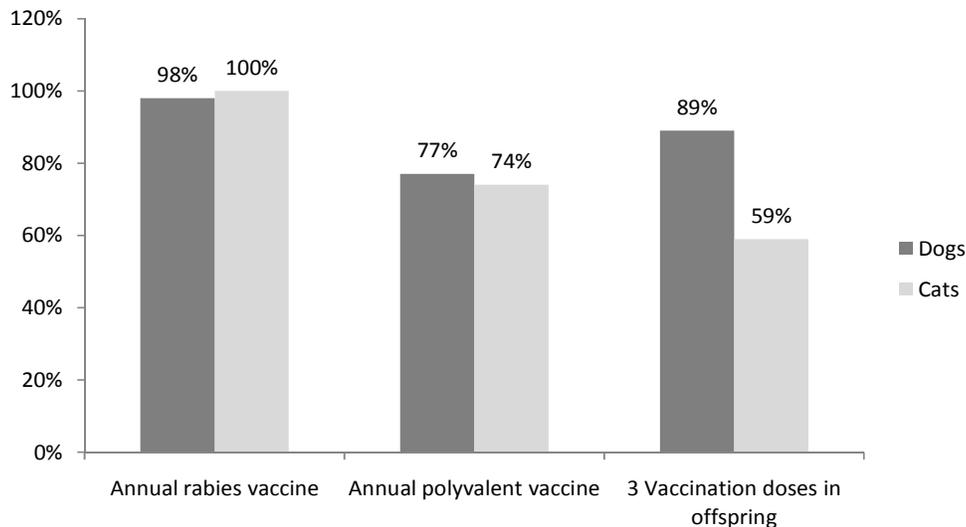


Figure 2 - Percentage of dog ($n = 115$) and cat ($n = 27$) owners who knew the vaccination protocols. * Values are significantly different between dogs and cats at 5% significance level.

As for the average family income (in minimum wages), 65% received over four times the minimum wage (MW), 18% from two to four, 10% one to two MW. Seven percent refused to answer or could not say. There was no significant correlation between the monthly income of the family and vaccination against rabies ($r_s = 0.09$, $P = 0.28$) or other diseases ($r_s = -0.15$, $P = 0.058$), as well as the fact that they had been performed by a veterinarian or not ($r_s = 0.12$, $P = 0.16$). There was also no significant correlation with the cost evaluation of the vaccination ($r_s = 0.06$, $P = 0.45$).

Among the respondents, 89% lived in urban areas and 11% in rural areas. The fact that the owners live in rural or urban area did not influence whether the pets were vaccinated against rabies ($r_s = 0.04$, $P = 0.61$) and other diseases ($r_s = -0.09$, $P = 0.26$).

CONCLUSION

It can be concluded that most of the cats and dogs that are brought to the veterinary hospital are vaccinated against rabies and other diseases and their owners are aware of the vaccination protocols that should be used; however, there is lack of information, especially about the need to perform polyvalent vaccines in young cats. The owners are aware of the need for annual boosters against rabies and many animals are vaccinated by non-professionals. The age and health of the animals did not influence vaccine administration. The owner education is one of the factors that influences the percentage of vaccines administered, while family income and home environment do not influence.

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