

A study of factors associated with dog ownership



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Summary

This project aimed to identify differences between dog-owning and dog-free households using a survey of houses in a community in Cheshire. Eighty-nine percent of households were contacted and 94% of these participated. A short interview collected information on household demographics and pet ownership. Factors associated with dog ownership were identified, including presence of a horse, number of persons in household, ages of persons and presence of adult females.

Introduction

Humans and dogs have lived in close proximity for thousands of years. In 2003 it was estimated that 1 in 2 households (53%) in the UK owned a pet (PFMA 2003) and of these, 21% were dogs.

Dogs are a potential source of zoonotic infections. Worldwide, at least 65 diseases of dogs are transmissible to man.

Some groups in human society are at greater risk for zoonotic infection, for example young children, the elderly, pregnant women and the immunocompromised, highlighting the need to better understand factors associated with dog ownership.



**'A wagging tail,
a friendly "woof",
brings joy to all,
beneath this roof!'**

Methods

A community of 1278 houses in Cheshire, UK was identified (Fig.1) and each household visited up to five times over a five week period (July-August 2005). To increase probability of contact, the visits varied between 2pm-8pm weekdays or 10am-5pm Saturdays.

Interviews (~2 mins) gathered household information, including pet ownership, and for each person in the household, gender, age category and job description.

Dog-owning (DO) and dog-free (DF) household responses to each question were compared using chi-squared tests and univariable logistic regression analysis followed by multivariable logistic regression analysis.

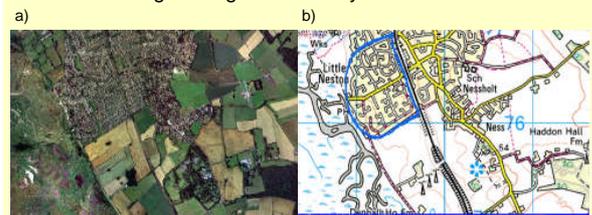


Fig.1. Study area in Little Neston, Cheshire UK, a) aerial view, b) map, boundaries outlined in blue.

Results & Discussion

The response rates for the survey are shown in Fig.2. Just over half (52%) of households owned a pet of some type and 24% owned one or more dogs. The percentage of the population owning a pet was almost identical to that reported previously (PFMA 2003) suggesting that the results of this study are representative of the general population.

Univariable analysis identified a number of variables associated with dog ownership including; ownership of fish, birds, horses, the presence of older children, an increased number of persons in household (in particular females), associate professional, skilled trades and personal service occupations, unemployed, and full-time students (including children of school age). In contrast, over 60s or retired persons had lower odds of owning a dog. This may be because of reduced mobility or not getting a new pet when the old one died.

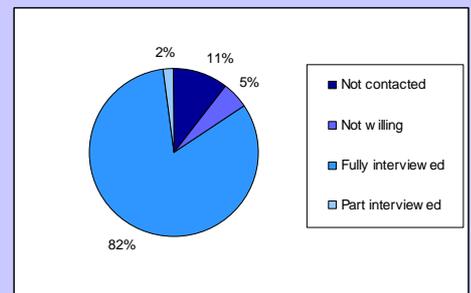


Fig.2. Response rates for 1278 households surveyed.

Table 1. Multivariable model of dog-ownership. Hosmer-Lemeshow =0.883.

Variable	OR	95% CI	P-value
Horse			0.005
No	1		
Yes	5.06	1.65-15.52	
Number of persons			0.055
1	1		
2	0.89	0.54-1.47	
3	1.29	0.60-2.79	
4	1.10	0.50-2.43	
5+	2.40	1.01-5.74	
Household age category (from cluster analysis)			0.041
Young families with 5yrs or under	1		
Over 60s only	1.51	0.65-3.51	
Families with older kids	2.27	1.19-4.32	
Families with mid-age kids	2.20	1.20-4.04	
Singles/couples adults	2.26	0.97-5.23	
Adult families with over 60s	2.47	1.12-5.45	
Presence of adult female			0.027
No	1		
Yes	2.23	1.10-4.55	

Development of a multivariable model of factors contributing to dog ownership was complicated as many of the variables that were individually significant were highly correlated, particularly measures of household 'type'. Hierarchical cluster analysis was used to define groups of household types by age and occupation (excluding full-time students). The variables age cluster, number of persons, presence of adult females and horse ownership remained in the final multivariable model (Table 1).

Large households (5+ people) and households that included adult females were more likely to own dogs compared to other households. Households with children 5 years or under or with retired people were less likely to own dogs. Similar results have been reported in other countries although a study in Germany found that the majority of the dog owners did not live with children less than 18 years of age (Brand, 2002).

In this population there was evidence of differences between DO and DF households. This could have implications for future targeting of populations for dog-ownership and for risk of zoonotic disease transmission.

Reference

PFMA. (2003). Pet ownership – facts and figures. http://www.pfma.com/public/petownership_stats.htm
Brand, U. (2002). "Comparative survey of dog owners in Berlin and Brandenburg, Germany." *Tierärztliche Umschau* 57(6): 309-316.

Acknowledgements

Thanks to DEFRA for funding the research.
Thanks to my interviewers for their hard work,
and thanks to the people of Neston for participating.

