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Is Pet Ownership Good for Your Heart? The Results of a Survey of Risk Factors for Cardiovascular Disease in Melbourne, Australia

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ABSTRACT

A survey was conducted of risk factors for cardiovascular disease in people attending a free screening clinic at the Baker Medical Research Institute in Melbourne. We found that pet owners in the survey had lower systolic blood pressure and triglycerides than those who did not own pets, the difference being especially marked in men. The results were not explicable by lifestyle, dietary or socioeconomic differences between the pet owner and non-owner group.

INTRODUCTION

Cardiovascular disease is arguably the most serious disease facing Australia and other Western societies. More than 50% of Australian women and men will die of the consequences of cardiovascular disease; for example stroke, coronary occlusion. For men, cardiovascular disease in the most common cause of death from the fifth decade of age; for women, after menopause.

The basic causes of the two main cardiovascular diseases, hypertension and atherosclerosis, are still unknown but a number of risk factors are known to be associated with increase risk of developing heart and vascular disease. Thus treatment strategies at this time are targeted at reducing these risk factors.

The most important known biological risk factors are high blood pressure (hypertension), high blood concentrations of triglycerides and cholesterol, and diabetes. Lifestyle risk factors include being overweight and sedentary, smoking, and dietary intake of fats especially saturated fats.

In the early 1980s, reports began to appear that blood pressure tended to fall a little in people in contact with animals (eg Messent, 1983). This however was the effect seen when the person was in direct contact with the animal, and it was not known whether this lowering of blood pressure persisted. A persistence effect would be necessary if pet ownership were to have a beneficial effect on blood pressure as a cardiovascular risk factor.

To test whether pet ownership was associated with changed levels of risk factors, we compared values in pet owners and non-owners attending a cardiovascular risk clinic at the Baker Medical Research Institute in Melbourne.

STUDY METHODS

During the period of our study, 5 741 people between 20 and 50 years of age self-referred to our clinic, mainly from the surrounding inner south-eastern suburbs of Melbourne, but also from throughout the rest of Victoria. Each person provided details of their lifestyle risk factors via a questionnaire, and then had their blood pressure measured and blood samples taken for triglyceride and cholesterol measurements. Weight and height were also measured. Upon completion of this risk assessment, they were asked whether they owned a pet. Those who did then completed a simple questionnaire on the types of animals owned.

Overall cardiovascular risk profile in our clinic population was similar to that measured in a large recent study of randomly selected Australians conducted by the National Heart Foundation (1989).

FINDINGS

There were 784 people who identified themselves as pet owners in our population: 476 owned one or more dogs, 421 owned cats and smaller numbers owned rabbits, horses and so on.

Overall, pet owners had lower systolic blood pressure and plasma triglycerides than non-owners. Analysing the results for each sex, systolic blood pressure, triglycerides and cholesterol were all lower in male pet owners, whereas in women overall the differences were not statistically significant. However, prior to menopause, women are relatively protected against cardiovascular disease. When we examined the results for women over 40-years-old, systolic blood pressure was significantly lower in pet owners than in non-owners, and triglycerides also tended to be lower.

This tendency for biological risk factors to be lower in pet owners could not be attributed to differences in lifestyles. When we analysed the participants' responses to our lifestyle questionnaire, pet owners tended in fact to eat a less prudent diet, to be as commonly overweight, just a likely to be smokers, and perhaps to drink more alcohol, though they also tended to be less sedentary. Thus the lower biological risk factors in the pet owners could not be easily attributed to lifestyle factors.

Another possibility was that those who walked dogs received the advantages of regular exercise which is known to lower blood pressure and plasma lipids (Jennings et al., 1986). However, this did not seem to be the case - there were no differences in risk factors between those who owned a dog versus those who owned any animal other than a dog.

Socioeconomic status was another issue which could have explained the results. If the pet owners came from high socioeconomic groups on the average, then their risk factors would be expected to the lower on this basis (McMichael, 1985). However, again this did not seem to be the case. The same proportion of pet owners and non-owners had tertiary educational qualifications. Furthermore, when we used Australian census data to estimate average family income (Australian Bureau of Statistics, 1987), there was no difference between the two groups.

The reader is referred to the Medical Journal of Australia, September 7th 1992 edition, for a fuller description of the results.

WHAT DO THE RESULTS MEAN?

The first point to make is that the lower risk factors in the pet owners compared to non-owners does not prove cause-and-effect ie the fact that risk factors were lower on the whole in pet owners does not prove that owning pet lowers risk factor. The difference could be attributable to some other difference between the pet owners and non-owners - one that we did not measure or perhaps don't even know about. The decision to own a pet may be associated with a different psychological and emotional make-up, and this in turn could be independently associated with lower risk factors, for example.

Similarly, it must be emphasised that the differences in risk factors were small, although they were of the order reported for other lifestyle interventions, such as exercise and vegetarianism (Rouse & Beilin, 1984). However the differences in men in particular were highly significant in statistical terms. They stimulate us, and hopefully will stimulate others, to study the possible beneficial effect of pet ownership further. There are reports also now of some other health benefits of pet acquisition, particularly those of Serpell (1990) who found lower incidences of minor illness in people who have recently acquired a pet.

Clearly, the possibility that pet ownership confers a health benefit should be clarified as soon as possible, if public health authorities plan to urge pet ownership for health reasons. For cardiovascular health, it is premature to do so until our results are confirmed by others, and the results of prospective controlled studies are reported. Nevertheless the possibility that pet ownership could be added to other non-pharmacological means of lower heart disease risk factors is exciting and should stimulate further research.

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This work was stimulated by the President of the Board of the Baker Medical Research Institute, Sir Laurence Muir, who read an article on the alleged benefits of pet ownership for heart disease on a QANTAS flight in the mid 1980s. Since the Baker Institute is Australia's major heart disease research institute, Sir Laurence successfully convinced us that we could perform a more definitive study than had previously been done.

I am Associate Director of the Baker Medical Research Institute which is affiliated with Monash University in Melbourne and which is one of only three institutes Australia-wide in receipt of a Block Grant from the National Health & Medical Research Council. My research interests mainly concern the control of blood pressure, and the role of the kidney in the development of high blood pressure. I have been at the Institute for 17 years, after three postdoctoral years at Harvard Medical School.

My other interest in animals is in their welfare when they are used in medical research. I am Chairman of the Animal Experimentation Ethics Committee of the National Health & Medical Research Council, and a member of the National Consultative Committee on Animal Welfare.

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