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Overweight in dogs, but not in cats, is related to overweight in their owners

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Abstract

Objective: To quantify the environmental component of aetiology of overweight and obesity by examining the relationship between the degree of overweight in dogs and cats and the degree of overweight in their owners.

Design: Cross-sectional study. Main outcome measures of the owners were weight, height (stature) and BMI. Of the animals, weight and divergence from ideal weight were measured by a veterinarian.

Setting: Three veterinary clinics in Amsterdam, The Netherlands.

Subjects: Dogs and cats, together with their owners, who visited the veterinary clinic. Dogs and cats had to be older than 1 year, and their owners had to be at least 21 years old. After exclusion, there remained forty-seven pairs of dogs and their owners and thirty-six pairs of cats and their owners.

Results: We found a significant relationship between the degree of overweight of dogs and the BMI of their owners ($r = 0{\cdot}31$). Correction for length of ownership, gender and age of the animal, and gender, age, education level and activity score of the owner did not materially affect this relationship. However, after correction for the amount of time the dog was being walked each day, this relationship disappeared. No significant relationship was found between the degree of overweight of cats and the BMI of their owners.

Conclusions: The degree to which dogs are overweight is, in contrast to the degree to which cats are overweight, related to the BMI of their owners.

Keywords
Obesity
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Owners

During the last two decades the prevalence of overweight and obesity has increased dramatically in fast industrializing countries. Even in the USA and UK it has more than doubled[1,2]. This trend is worrying, because overweight and obesity contribute to the aetiology of many serious illnesses like type 2 diabetes mellitus, hyperlipidaemia, hypertension, CVD, many types of cancer, gallbladder diseases and several musculoskeletal diseases[1,3].

To stop this 'epidemic' it is important to know more about the pathogenesis of overweight and obesity, and more specifically the contribution of interacting genetic and environmental factors[4,5]. Genetic factors are principally irreversible and have been reported to explain 50–90 % of the variance in BMI[4]. However, for the prevention and treatment of overweight and obesity, potentially reversible environmental factors are of greater interest. As the human gene pool cannot have changed drastically in past decades, it is likely that the increasing prevalence of overweight and obesity is due to changes in environmental factors[2,6]. Probably individual attitudes and behaviour, like food intake and physical activity, which change in reaction to secular trends, play an important role[6]. In the last few decades Western society has changed into one in which people have more sedentary lifestyles and high-fat, energy-dense diets. These environmental factors are generally accepted to contribute to positive energy balance and hence to weight gain[1,3,5]. However, the exact impact of the environmental component on body weight has not been quantified very well.

As pets and their owners have no genetic relationship, and pets are, with regard to their food and lifestyle, dependent on their owners' attitudes and behaviour, the relationship between the weight of owners and their pets provides information about the effect of individual attitudes and behaviour on body weight. Indeed, in 1970, Mason had already demonstrated a relationship between obesity in pet dogs and the degree of obesity in their owners[7]. More recently this finding was confirmed by

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