

Owners' attitudes to their Overweight and Obese Dogs: How the Veterinarian can influence the Welfare of these Animals through Owner Education

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Introduction

Canine obesity is becoming an increasing welfare issue of western society, to the extent that it is now considered as cruel as underfeeding (White *et al.*, 2011). It is currently estimated that as many as 44% of dogs are overweight or obese (Laflamme, 2012; Murphy *et al.*, 2012; Van de Velde, 2012). An analysis of factors contributing to companion animal obesity highlights owner perception and attitudes as key factors (White *et al.*, 2011) so it is important to educate owners about the health implications.

Discussion

While it is well known that obesity in humans and animals can have negative health implications, most owners lack education about the extent to which obesity contributes to chronic disease. Obese dogs have a 15% reduction in life expectancy, have earlier onset of morbidities requiring medication and are at increased risk of osteoarthritis, due to excessive joint strain (Laflamme, 2012). Obesity is also pivotal in metabolic disorders such as diabetes mellitus, serum lipid abnormalities, cardiac disease, respiratory disease, urinary disorders, reproductive disorders, neoplasia and dermatologic diseases (Murphy *et al.*, 2012; Van de Velde, 2012).

Laflamme (2012) discusses the endocrine influences that adipose tissue can exert and the pathophysiology that results. The secretion by adipose tissue of leptin and adiponectin plays a critical role in appetite and energy regulation, along with immune function (Laflamme, 2012). In particular, reduction of adiponectin secretion, which accompanies an increase in adiposity, is important because adiponectin functions to enhance insulin sensitivity and stimulate basal energy expenditure (Laflamme, 2012). This may explain the link between obesity and insulin resistance.

Insulin resistance in obese animals results in hyperinsulinemia due to increased secretion from the pancreas (Laflamme, 2012). Hyperinsulinemia contributes to many chronic diseases, including cardiovascular disease, mammary, prostate or colon cancer and liver or kidney disease. However, most importantly, hyperinsulinemia further decreases insulin receptor sensitivity (Laflamme, 2012). This perpetuates obesity by disrupting energy homeostasis and appetite.

A study by Van de Velde *et al.* (2012) analysed the immunological effects of short-term obesity induced by overfeeding. This study measured peripheral blood mononuclear cells, oxygen radical production and immunoglobulin concentrations to demonstrate the effect of obesity on cellular and humoral immunity. This highlighted an increase in IgA and IgM immunity but no change in IgG immunity after 13 weeks of positive energy balance. However, further studies are required to demonstrate the effects of chronic obesity on immunity, as this may vary.

While the above discussion on the negative sequelae of obesity highlights the multitude of chronic diseases to which obese animals are predisposed, veterinarians must also take into account the owner, their perspective, lifestyle, the animal's life stage and exercise requirements when formulating a weight-reduction plan.

A Canadian study by Degeling *et al.* (2012) analysed factors contributing to the time owners (n=2223) spent walking their dogs. This study examined the socioeconomic status, age, gender and lifestyle of the owners, along with the age, breed, sex and energy requirements of their dogs. It was found that female owners were more likely to spend an increased amount of time walking

their dogs than their male counterparts. The study also showed owners living in apartment-style housing had an increased frequency in walking to allow for elimination. It is important to note, that this increase in frequency did not necessarily translate to an increase in time spent exercising. Owners living in housing with access to a backyard were found to walk their animals for an increased time period for each interval, when compared to those living in apartment-style housing. Alarming, 10% of respondents in this study reported not walking their dogs at all.

In simplest terms, obesity is caused by energy intake exceeding energy requirements. A study by Murphy *et al.* (2012) highlighted the size of food bowls and the importance of measuring scoops when monitoring feed intake in companion animals. This study showed that owners were more likely to serve larger quantities of food when serving food in large bowls or with large scoops. There was a statistically significant decrease in the food presented in small bowls or with small scoops. Therefore, some owners, even with the best of intentions, could be overestimating required portion sizes. Supplying owners with smaller bowls and standardised measuring scoops could assist them in complying with a weight-reduction plan.

While some owners are aware their animal would benefit from weight reduction, White *et al.* (2011) highlighted the variation in perception between veterinarians and owners when estimating canine bodyweight. This study demonstrated that a significant number of owners did not perceive their dogs as overweight, even after discussion with a veterinarian. Degeling *et al.* (2011) discusses the effect media has in influencing this perception, when compared with literature in veterinary journals. This paper highlights the media's simplistic view on the issue of canine obesity as purely a food management issue. In contrast, veterinary journals analyse other contributing factors that can lead to the failure of weight-reduction plans. This differing source of information could play a central role in the differing perspectives of owners and veterinarians.

Owner education about the healthy weight for their animal, along with methods of assessing body condition, could assist them to monitor their animal's weight on an ongoing basis. Further complicating the application of weight-reduction plans is the fluctuation in factors contributing to a successful outcome. Exercise requirements and food intake will vary over the animal's life (Degeling *et al.*, 2012). The owner's changing social and physical environment will also affect their ability to fulfil these requirements. This highlights the importance of constant monitoring of a companion animal's weight throughout its life.

Conclusion

The clear impact obesity has on canine health and quality of life is a pressing issue. A veterinarian has a unique opportunity to influence the health and welfare of obese animals through owner education. This is due to their one-on-one contact with owners and the fact that a veterinarian's opinion is generally well respected. However, it is crucial that each animal and owner is assessed individually to maximise the opportunity for a successful outcome.

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