



## EDITORIAL



**WSAVA**  
One Health Committee

## One Health Approach to Preventing Obesity in People and Their Pets

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The *Journal of Comparative Pathology* promotes the concept of ‘One Health’ in which there is collaboration and co-ordination between human and animal healthcare in the context of the health of the shared environment in which people and animals co-exist. This concept was clearly practiced by the founder of the Journal, Sir John M’Fadyean, and defines the scope of the Journal to this day (Day, 2008).

One of the most significant healthcare issues facing the human population, and shared by small companion animals (i.e. pet dogs and cats), is the growing problem of obesity. A recent analysis of global human obesity evaluated data from 19.2 million people in 200 countries over a 40-year period. In 1975 an estimated 3.2% of men and 6.4% of women had obesity. By 2014 these statistics had risen to 10.8% of men and 14.9% of women. The increase in overweight and obesity affected all regions of the world, with the exception of some parts of sub-Saharan Africa and Asia. If these trends continue, it is suggested that by 2025 more women in the human population will have obesity than be underweight (NCD Risk Factor Collaboration, 2016).

Similar data exist for our canine and feline populations. A 1995 study of 21,754 US dogs revealed that 34% were overweight or had obesity (Lund *et al.*, 2006) and in the year 2000, 33.5% of 2,661 Australian

dogs surveyed were overweight and a further 7.6% of these animals had obesity (McGreevy *et al.*, 2005). In Great Britain, a study published in 2012 reported that 11.5% of 3,227 cats were overweight or had obesity (Courcier *et al.*, 2012). As for people, obesity is linked to a range of disease states in pets, including orthopaedic problems, diabetes mellitus, cardiorespiratory disease, urinary and reproductive disorders, neoplasia and dermatological disease (German, 2006).

A meeting held on 10th–11th November 2016 in Atlanta, Georgia, USA, brought together human and veterinary healthcare professionals to discuss issues relating to obesity in people and their pets, and to propose One Health solutions to this problem. The two-day conference was convened by the One Health Committee of the World Small Animal Veterinary Association (<http://www.wsava.org/educational/one-health-committee>) in association with the US Centers for Disease Control and Prevention. The ‘vision’ for the conference was: ‘A world where regular activity, a balanced diet and healthy weight are part of every family’s life’.

This issue of the Journal carries three open access manuscripts summarizing the presentations that were made during the three themed streams of the conference: (1) The Biology of Obesity and its Comorbidities, (2) The Costs, Behaviour and Psychology of Obesity and (3) One Health Opportunities in Combatting Obesity (Bartges *et al.*, 2017; Bomberg

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*et al.*, 2017; Chandler *et al.*, 2017). During the final discussion session of the conference, a ‘consensus statement’ reflecting the key outcomes and recommendations was drafted. These key points are summarized below.

### **The Biology of Obesity and its Comorbidities**

- The definition and diagnosis of obesity is problematic in animals. More precise definition requires the development of reliable and valid metrics for measuring adiposity.
- In people, assessment of health status by healthcare professionals beyond the screening measure of body mass index for obesity is needed to ensure appropriate obesity management.
- Obesity is a disease and should be referred to as such.
- Obesity in people and pets is a complex disease involving genetic as well as epigenetic risk factors including: diet, the environment, stress, level of physical activity and behaviours.
- The biology of obesity in people and pets involves the interplay between hormonal, metabolic, immune and inflammatory factors and the microbiome.
- Obesity is a disease of global significance and increasing prevalence in the human and companion animal populations.
- Obesity is associated with numerous comorbidities in people and pets.

### **The Costs, Behaviour and Psychology of Obesity**

- There are significant human and veterinary healthcare and quality of life costs associated with obesity and its comorbidities.
- The health benefits of human–animal interactions are significant socially, psychologically, biologically and financially.
- There are important parallels between children and pets with respect to foods in the home and delivery and control of food and feeding practices by caregivers.
- Pets are recognized as family members and sometimes treated as child or partner surrogates.
- Human and veterinary healthcare providers often find it difficult to discuss obesity with clients.
- Low socioeconomic status is associated with humans developing obesity and may impact on the development of obesity in pets.
- The built and natural environment and its opportunities for providing welcoming spaces for physical activity impacts on both people and pets.
- Commercial messaging about food impacts on obesity in people and pets.

### **One Health Opportunities in Combatting Obesity**

- The differences and similarities in obesity-related comorbidities between people and pets afford opportunities for interdisciplinary research collaborations. Companion animal research and clinical trials related to the biological and behavioural causes of obesity, diagnostic and monitoring techniques and weight loss strategies may be more translatable to people than studies in rodent models.
- Human and veterinary researchers should communicate more effectively and share existing funding opportunities and create new funding streams for medical–veterinary collaborations.
- Collaborative research opportunities are offered by adding questions on pet ownership and the human–animal bond to human health surveys.
- Pet adoption centres and veterinary hospitals may provide a convenient central point for collection of human and animal data and samples for research programmes into obesity.
- Prevention of obesity should be a major priority for the human and veterinary healthcare professions.
- Diet quality and caloric restriction has been shown to be the most significant factor in weight loss. Physical activity is important in preventing weight gain and maintaining weight loss. Additionally, physical activity has numerous health benefits well beyond weight loss. There should be consistent messaging about physical activity; current recommendations for people are 150 min of moderate or greater physical activity per week.
- Physical activity should be captured as a ‘vital sign’ in taking the health history of people or pets.
- The veterinarian has a role in improving the health of pets, but also of pet owners as caregivers.
- Human and veterinary healthcare providers should communicate more effectively with patients/pet owners. The technique of ‘client-centred communication’ provides motivation for healthy habits. Small and sustainable changes in lifestyle can lead to long-term success.
- We should communicate the One Health approach to obesity research and management more effectively through list-serves, websites, symposia (at major conferences related to obesity research and prevention) and public outreach.
- The human–animal bond can serve as a mechanism to maintain motivation and adherence to physical activity and weight control strategies. Dogs provide social support for physical activity and weight loss.
- Community walking programmes are a valuable tool in obesity management and there is added

benefit and motivation when such programmes involve walking with dogs. There is particular value in programmes for people who are overweight or have obesity and overweight pets undertaking physical activity together.

- Veterinary practices could become more actively involved in community walking programmes and could participate in community actions such as community coalitions and human health fairs.
- Obesity is a societal health issue and part of the solution will involve policy changes. One Health proponents need to be involved in formulating such changes. The first step is in drafting a compelling message.

### Acknowledgments

The consensus statement points given above were drafted by the participants in the final discussion session of the conference. The conference received sponsorship from Hill's Pet Nutrition, Mars Petcare and Purina (gold level sponsors) and Merck Animal Health (silver level sponsor).

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