

# Comorbilidad del sobrepeso y la obesidad en perros y gatos

*Comorbidity of overweight and obesity in dogs and cats*

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**Palabras****claves:**

Obesidad,  
Sobrepeso,  
Perro, Gato,  
Diabetes  
Mellitus,  
Insuficiencia  
cardíaca.

**Resumen**

El sobrepeso y la obesidad son las enfermedades nutricionales más comunes en perros y gatos. La gran diferencia entre el sobrepeso en mascotas y humanos es que los animales no tienen la facultad de controlar su peso. Dependen única y exclusivamente de lo que les sirva su dueño. A partir del año edad es fundamental proporcionarles la dieta recomendada para su edad, especie y raza. De lo contrario, les llevaremos al sobrepeso, y de ahí a la obesidad. La obesidad se define como un exceso de grasa corporal suficiente como para producir enfermedad. Cuando el animal consume más calorías que las que gasta, la grasa se acumula en el cuerpo. En perros, el sobrepeso comienza cuando el animal sobrepasa entre un 15 y un 30% el peso establecido como normal para la raza. A partir de un 30%, estaríamos hablando de obesidad. En el caso de los gatos se considera que presentan sobrepeso cuando superan en más del 10% su “peso ideal”, y son obesos cuando lo supera en un 20%. La salud y la longevidad se ven afectados por los depósitos excesivos de grasa en el cuerpo. Las enfermedades asociadas con la obesidad y el sobrepeso, incluyen desordenes ortopédicos traumáticos o degenerativos, enfermedad cardiovascular que se manifiesta con insuficiencia cardíaca congestiva, intolerancia al ejercicio y al calor, predisposición a la diabetes mellitus, hipertensión, hiperlipidemias, carcinoma de células transicionales en vejiga y compromiso de la función inmune. Por otra parte, la obesidad y el sobrepeso aumentan el riesgo de sufrir tumores mamarios, y esto relacionado no solo con la obesidad sino con el consumo de comida casera y de carnes roja. Con esta revisión bibliográfica de literatura se busca reunir y resumir información científica, actualizada y específica acerca de las patologías que se asocian a la obesidad y el sobrepeso en perros y gatos, con la finalidad de comprender la fisiología de la patología y como el profesional Médico Veterinario puede intervenir oportunamente para controlar estos trastornos asociados a la nutrición de las mascotas.

**Keywords:**

Obesity,  
Overweight,  
Dog, Cat,  
Diabetes

**Abstract**

Overweight and Obesity are the most common nutritional diseases in dogs and cats. The big difference between overweight in pets and humans is that animals do not have the ability to control their weight. They depend solely and exclusively on what their owner

Mellitus, Heart failure.

serves them. From one year of age it is essential to provide them with the recommended diet for their age, species and breed. Otherwise, we will lead them to become overweight, and from there to obesity. Obesity is defined as excess body fat sufficient to cause disease. When the animal consumes more calories than it expends, fat accumulates in the body. In dogs, overweight begins when the animal exceeds between 15 and 30% the weight established as normal for the breed. Above 30%, we would be talking about obesity. In the case of cats, they are considered overweight when they exceed their “ideal weight” by more than 10%, and they are considered obese when they exceed it by 20%. Health and longevity are affected by excessive fat deposits in the body. Diseases associated with obesity and overweight include traumatic or degenerative orthopedic disorders, cardiovascular disease manifesting with congestive heart failure, exercise and heat intolerance, predisposition to diabetes mellitus, hypertension, hyperlipidemia, transitional cell carcinoma of the bladder, and compromised immune function. On the other hand, obesity and overweight increase the risk of suffering from breast tumors, and this is related not only to obesity but also to the consumption of homemade food and red meat. This bibliographic review of literature seeks to gather and summarize scientific, updated and specific information about the pathologies that are associated with overweight and obesity in dogs and cats, with the aim of understanding the physiology of the pathology and how the Medical professional A veterinarian can intervene, in a timely manner to control these disorders associated with pet nutrition.

## Introduction

Overweight and obesity are currently considered the most common nutritional disease in dogs and cats, which are associated with other pathologies such as: musculoskeletal disease, cardiovascular disease, diabetes mellitus, dermatosis, exercise intolerance, impaired reproductive efficiency, and hypertension, among others. The relationship between body weight and the optimal weight of the animal is a criterion for defining obesity because it is easier to quantify weight than body fat (Ten, 2002).

Obesity is qualitatively defined as an excess of body fat sufficient to cause disease. It has also been defined as a condition of positive energy balance and excessive formation of

adipose tissue with adverse effects on morbidity and mortality. Overweight begins when the excess weight exceeds the value established as normal for each breed, between 15 and 30%; most authors agree that above 15% the dog or cat begins to have difficulties with its weight (Laflamme, 2006).

This is how Bulkholder and Toll (2000) summarize the scale for overweight as follows:

- Pets weighing between 1 and 9% above their ideal weight are only above their optimal state.
- Pets weighing between 10 and 19% above their ideal weight are considered overweight.
- Pets weighing more than 20% above their ideal weight are obese.

The exact medical cause of obesity and overweight is unknown. Research suggests that it is due to an imbalance between energy intake and expenditure. According to these studies, the balance is determined primarily by neurological, physiological, metabolic and hormonal factors. However, there are other risk factors related to obesity. (Shearer, 2016):

- Overfeeding: Many owners tend to offer their pet the same things they eat, apart from their own food.
- Behavioral disorders: Idleness, boredom, nervousness and other problems can lead to overeating.
- Genetics: Some breeds are more prone to weight gain than others:

Dogs: mixed breed, Labrador Retriever, Collie, Basset Hound, Rottweiler, Golden Retriever, Bullmastiff, Pug, Pekingese, Beagle, Shetland Sheepdog, Cairn Terrier, Poodle and Dachshund.

Cats: Crossbreeds tend to be more overweight than purebreds, although purebreds include Maine Coon, Norwegian Forest Cat, Neva Masquerade and Cornish Rex.

- Endocrine pathologies: hyperinsulinemia (excess insulin in the blood), hypothyroidism and hyperadrenocorticism or Cushing's syndrome.
- Age: The likelihood of over-weight gain is highest between 5 and 10 years of age, so special care must be taken with the feeding of adult and senior pets. On the other hand, excessive fat deposits have negative effects on health and life expectancy.
- Sex: Obesity is more common in females.
- Physical activity: Many pets have a less active lifestyle, which can predispose them to being overweight.
- The type of food: unbalanced diets can cause energy imbalance and, therefore, overweight.

- Sterilization: Sterilized animals consume less energy.

Obesity and its comorbidities have become a serious medical concern not only in humans but also in other naturally obese species. In recent decades, the incidence of obesity in companion animals in general and in dogs and cats in particular has increased dramatically, perhaps even more extreme than in humans, and has become a serious concern in veterinary medicine (Osto, 2016).

The objective of this bibliographic review study is to identify the main diseases that are associated with overweight and obesity in dogs and cats, and how through correct management of pet nutrition we avoid complications in the quality of life of dogs and cats.

### Goals

- Identify the importance of comorbidity of overweight and obesity in dogs and cats.
- Know the main pathologies associated with overweight and obesity in dogs and cats
- Analyze the importance of good nutrition in dogs and cats.

### Methodology

The objective of this bibliographic literature review is to detail the comorbidity of overweight and obesity in dogs and cats.

The aim of this work is to generate current information that compiles the main pathologies associated with overweight and obesity in dogs and cats. With several medical reports, we aim to highlight the importance of good nutrition in pets to avoid the possible presentation of metabolic pathologies.

The search, selection and compilation in the PubMed, Scielo and Redalyc databases was carried out using keywords and connectors present in each of the databases. It began with a general search for several cases and clinical studies on overweight and obesity in dogs and cats.

Keywords were used for the general search such as: “Overweightand Obesity”, “Diabetes Mellitus”, “Heart failure”. The selection of studies for inclusion was carried out using a two-step approach. During the first stage, articles, scientific journals and official pages were selected from the search results based on titles and abstracts, excluding those considered irrelevant to the topic (all those that were outside the search year range).

The bibliographies of the reviewed articles were scanned for additional older literature. The corresponding studies on the research questions were assessed in the second stage

with the full text, including the studies for which inclusion was done on the basis of title or abstract. All retained articles and scientific journals after the first step were reviewed and verified to meet the criteria.

### Discussion

The peak prevalence of overweight and obesity is found in patients between 5 and 10 years of age, affecting about 50% of dogs and cats in this age group. Various investigations carried out in America, Europe and Australia have determined a prevalence that varies between 9 and 44% (Table 1); that is, this disease can be present in almost half of the canine or feline population in several countries (Laflamme, 2005).

Some authors claim that industrialized countries are the ones with the highest incidence, although it is not a problem that greatly affects third world countries (Gossellin, 2007) In a study conducted in France published in 2006, a prevalence of obesity in dogs of 38.8% was found; in addition, they found that 56.5% of the censused population had an ideal body condition (Colliard, 2006).

**Table 1**

*Incidence of overweight and obesity in dogs and cats in various countries around the world*

Country	Incidence %
Sweden	9
England	34
Germany	22
Austria	24
USA	34
France	38.8
Brazil	17

**Fountain.** Ten (2006)

The main factor associated with obesity is overfeeding; in the early stages of life overfeeding leads to the proliferation of adipocyte cells, which triggers hypertrophic-hyperplastic obesity, while overfeeding in later stages results only in hypertrophic obesity (Laflamme, 2006).

A large number of dogs and cats have a stable weight and it is likely that events such as unemployment, boredom, nervousness and other behavioral problems lead to excessive food consumption and produce overweight and obesity per se (Laflamme, 2006).



Obesity in dogs and cats is a nutritional disease that is of increasing concern, as it affects up to 35% of adult dogs and cats. Chronic diseases associated with obesity and overweight in dogs and cats include osteoarthritis, heart disease and diabetes mellitus, and in dogs, hypothyroidism (Saito, 2021).

**Table 2.**

*Percentage of cats and dogs with chronic pathologies associated with overweight and obesity*

<b>Pathologies</b>	<b>Prevalence in cats</b>	<b>Prevalence in dogs</b>
Osteoarthritis	41.9%	50.2%
Heart disease	31.8%	40.6%
Diabetes Mellitus	54.0 %	54.7%
Hypothyroidism	0.0%	71.0%

**Fountain.Saito (2021)**

Overweight and obese dogs and cats are at higher risk of certain chronic diseases that affect their quality of life and that of their owners. The percentage of animals with these chronic diseases is low, as most patients are young. However, the prevalence of these diseases is similar to that reported in other studies (Saito, 2021).

A multivariate analysis is necessary to fully characterize the association between these diseases and overweight or obesity, controlling for potential confounders and other risk factors such as age, sex, and race. Given the cross-sectional nature of this study, it is not possible to determine whether chronic diseases precede, occur simultaneously, or occur after the development of overweight and obesity, but in any case, the relationship is significant. Therefore, the owner should be informed of the importance of nutrition and weight control in reducing the risk of diseases associated with overweight and obesity (Saito, 2021).

**Figure 1**

*Feline patient with obesity*



**Fountain.German (2022)**

**Figure 2**

Canine patient with obesity



**Fountain.German (2018)**

Many veterinarians are reluctant to discuss obesity with owners, possibly because it is a highly stigmatised condition. It is therefore important to address the issue of overweight stigma within the profession to improve communication about obesity. Stigma about being overweight can be unconscious, with the veterinarian unaware of the effect this bias can have on outcome, so it can be helpful for the practice team to quickly check whether they themselves are talking about the topic in a biased way. This is useful for the treatment of obesity, for example, by tailoring both advice and the way of communicating with owners to ensure that clinical recommendations are consistent (Salt, 2020).



## Conclusions

- Obesity and overweight in dogs and cats is currently a growing concern and the demographics of affected patients are changing. Although weight management protocols are well established, they are far from perfect. Furthermore, it is not helped by the fact that obesity is a highly stigmatised disease and an uncomfortable topic to talk about. Although there are no simple solutions, veterinarians can more effectively address this problem by considering short-term weight loss plans, preventing obesity in young animals and talking more effectively about obesity.
- Veterinary professionals must keep in mind that overweight and obesity in dogs and cats are pathologies associated with several risk factors for the health of patients, causing various diseases such as: Osteoarthritis, Heart Disease, Diabetes Mellitus and Hypothyroidism. Thus affecting the quality of life of pets.
- This study identifies the importance of the correct daily supply of food that should be provided to dogs and cats by their owners, based on their physical condition, ideal weight and type of food. To do this, the Veterinarian must advise pet owners on the correct management of feeding, to avoid problems in the quality of life of pets.

## Conflict of interest

The authors declare that they have no conflict of interest.

## Bibliographic references

- Burkholder WJ, Toll P. (2000). Obesity. Clinical nutrition in small animals. 4th ed. Santafé de Bogotá: Inter-Médica; p. 475–508.
- Colliard L, Ancel J, Benet JJ, Paragon BM, Blanchard G.(2006). Risk factors for obesity in dogs in France. J. Nutr. Jul;136(7 Suppl): 1951S-1954S.
- Diez M, Nguyen P, Jeusette I, Devois C, Istasse L, Biourge V. (2002). Weight loss in obese dogs: evaluation of a high-protein, low-carbohydrate diet. J. Nutr. Jun;132(6 Suppl 2):1685S-7S.
- Diez M, Nguyen P. (2066). Obesity: epidemiology, pathophysiology and care of the obese dog. Encyclopedia of canine clinical nutrition. Aimargues (France): Royal Canin; p. 4–59.
- German A (2022). Obesity in pets: new challenges, new solutions.<https://vetfocus.royalcanin.com/es/cientifico/obesidad-en-las-mascotas-nuevos-retos-nuevas-soluciones>

- German AJ, Woods GRT, Holden SL, et al. (2018). Dangerous trends in pet obesity. *Vet. Rec.* 182:25. DOI: 10.1136/vr.k2
- German AJ, Titcomb J, Holden SL, et al. (2015). Cohort study of the success of controlled weight loss programs for obese dogs. *J. Vet. Intern. Med* 29:1547-1555. DOI: 10.1111/jvim.13629
- Gossellin J, Wren JA, Sunderland SJ. (2007) Canine obesity: an overview. *J. Vet. Pharmacol. Ther.* Aug;30 Suppl 1:1-10
- Laflamme DP. (2005). Nutrition for aging cats and dogs and the importance of body condition. *Vet. Clin. North Am. Small Anim. Pract.* May;35(3):713–4
- Laflamme DP. (2006). Understanding and managing obesity in dogs and cats. *Vet. Clin. North Am. Small Anim. Pract.* Nov;36(6):1283–95, vii.
- Osto M, Lutz T. (2016). Translational value of animal models of obesity-Focus on dogs and cats. <https://www.sciencedirect.com/science/article/abs/pii/S0014299915002526?via%3Dihub>. DOI:10.1016/j.ejphar.2015.03.036
- Saito K. (2021). Comorbidity of overweight and obesity in dogs and cats. <https://vetfocus.royalcanin.com/es/cientifico/comoribilidad-del-sobrepeso-y-la-obesidad-en-el-perro-y-el-gato>
- Salt C, Morris PJ, Butterwick RF, et al. (2020). Comparison of growth patterns in healthy dogs and dogs in abnormal body condition using growth standards. *PLOS On.* 15:e0238521. DOI: 10.1371/journal.pone.0238521
- Tundidor A. (2016). Overweight and Obesity in Dogs and Cats, *Veterinos Centre Veterinari* 2024. <://veterinos.com/es/sobrepeso-y-obesidad-en-perros-y-gatos/>

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