

É SEGURO RECOMENDAR QUE 10% DA INGESTÃO CALÓRICA DIÁRIA SEJA PROVENIENTE DE PETISCOS PARA GATOS?

Kelly Kéffny Souza Duarte

Leonardo Príncipe, Adrielly Aparecida do Carmo

Thiago H. A. Vendramini

Faculdade de Zootecnia e Engenharia de Alimentos/ Universidade de São Paulo, Centro de Pesquisa em Nutrologia de Cães e Gatos

kellykeffny@usp.br

Objetivos

O propósito deste estudo foi investigar a segurança da substituição de 10% da ingestão diária de energia proveniente de petiscos, de acordo com as diretrizes da WSAVA e AAHA, no regime alimentar de cães e gatos.

Métodos e Procedimentos

Neste estudo, examinamos 226 rótulos de alimentos completos secos extrusados comerciais destinados a cães adultos saudáveis e 124 rótulos de alimentos para gatos adultos saudáveis. As informações sobre os níveis de proteína e gordura utilizados nesta análise foram obtidas diretamente das embalagens dos produtos. Os teores de proteína e gordura incluídos nesta análise foram os apresentados nos rótulos dos alimentos. As equações utilizadas para determinação da necessidade energética de manutenção (NEM) foram $95x$ (peso corporal)^{0,75} e $75x$ (peso corporal)^{0,67}, respectivamente para cães e gatos, conforme a FEDIAF (2021). A partir destes cálculos, empregou-se a recomendação de restrição energética de 10% da NEM segundo a WSAVA e AAHA para inclusão de petiscos, para os quais considerou-se qualquer tipo de alimento, de vegetais à petiscos comerciais, com valor

nutricional variável. Os resultados foram apresentados na forma de frequências.

Resultados

Constatou-se que 97,32% (n=218/ 224) das dietas destinadas a cães atenderam ou ultrapassaram as quantidades mínimas recomendadas de proteína, conforme demonstrado na Tabela 1.

Tabela 1. Recomendações mínimas de proteína e gordura para cães e a porcentagem de dietas que não atenderam as recomendações após redução de 10% da NEM

Cães		
Nutrientes	Adultos baseados na NEM de:	
	95kcal/kg ^{0,75*}	DNM ^{10MER}
Proteína	52,1g/1000kcal	2,68%
Gordura	13,75g/1000kcal	0,00%
Gatos		
Nutrientes	Adultos baseados na NEM de:	
	75kcal/kg ^{0,67*}	DNM ^{10MER}
Proteína	83,3g/1000kcal	60,48%
Gordura	22,5g/1000kcal	51,61%

*FEDIAF (2021); DNM^{10NEM}: dietas que não atenderam a recomendação após redução de 10% da NEM.

Com relação aos teores de gordura dos alimentos para cães, com base nas

recomendações mínimas para cães inativos e ativos, todos forneceram ou ultrapassaram o mínimo recomendado. Entretanto, para gatos, quando empregada a equação para animais inativos, 51,61% (n=64/124) não forneceram o mínimo necessário de gordura. Por outro lado, para gatos inativos 60,48% (n=75/124) das dietas não atenderam o mínimo recomendado de proteína (Figura 1).

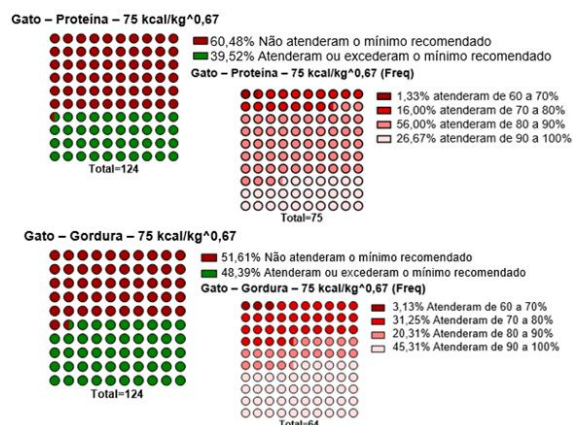


Figura 1. Distribuição das dietas para gatos baseada nas recomendações mínimas de proteína e necessidade energética de manutenção de acordo com a FEDIAF (2021).

A inclusão de petiscos não implicou no desbalanço dos teores de proteína e gordura para maioria das dietas para cães. Entretanto, Zafalon et al. (2020) identificaram inconsistências entre as análises bromatológicas e as informações nos rótulos, corroborando a hipótese de que a inclusão destes alimentos pode causar desequilíbrios nutricionais. A elevada porcentagem de dietas para gatos apresentando desbalanço nos teores de proteína e gordura, quando restrito 10% é preocupante, uma vez que a deficiência de aminoácidos e ácidos graxos essenciais para gatos implicam em riscos à saúde. A deficiência destes na alimentação de gatos pode resultar em hiperamonemia, dentre outras consequências (MORRIS & ROGERS, 1978). Na mesma linha, gatos deficientes em ácido araquidônico podem apresentar trombocitopenia, agregação plaquetária e

distúrbios reprodutivos (MACDONALD et al., 1984).

Conclusões

Conclui-se que a recomendação para inclusão de petiscos proposta pela WSAVA e AAHA associada à equação preditiva de NEM estabelecida pela FEDIAF (2021) para animais inativos, podem implicar em riscos de deficiências nutricionais em gatos.

Agradecimentos

À empresa Premier Pet pelo apoio estrutural e financeiro para a realização do estudo. Ao CEPEN PET e todos pós-graduandos e seus colaboradores.

Referências

- CLINE, M.G. et al., 2021. AAHA Nutrition and Weight Management Guidelines for Dogs and Cats. *Journal of the American Animal Hospital Association*, 57(4), p.153–178.
- FREEMAN, L., et a., 2011. WSAVA Nutritional Assessment Guidelines. *Journal of Feline Medicine and Surgery*, 13(7), p.516–525.
- MACDONALD, M.L., et al., 1984. Essential fatty acid requirements of cats: pathology of essential fatty acid deficiency. *American Journal of Veterinary Research*, 45(7), p.1310–1317.
- MORELLI, G., et al., 2020. Survery of Dog Owners'Attitudes toward Treats. *Journal of Applied Animal Welfare Science*, 23(1), p.1-9.
- MORRIS, J.G & ROGERS, Q.R. Ammonia intoxication in the near-adult cat as a result of a dietary deficiency of arginine. (1978). *Science*, 199(4327), p.431–432.
- PORSANI, M.Y.H. et al., 2020. Prevalence of canine obesity in the city of São Paulo, Brazil. *Scientific Reports*, 10(1), 14082.
- ZAFALON, R.V.A., et al., 2020. Comparison of methodologies for fat determination and evaluation of calcium and phosphorus content in snacks for dogs. *Brazilian Journal of Veterinary Research and Animal Science*, 57(2), p.1–8.

Is it safe to recommend that 10% of the daily calorie intake comes from cat treats?

Kelly Kéffny Souza Duarte

Leonardo Príncipe, Adrielly Aparecida do Carmo

Thiago H. A. Vendramini

Faculdade de Zootecnia e Engenharia de Alimentos/ Universidade de São Paulo, Centro de Pesquisa em Nutrologia de Cães e Gatos

kellykeffny@usp.br

Objectives

The purpose of this study was to investigate the safety of replacing 10% of the daily energy intake from treats, following the WSAVA and AAHA guidelines, in the diet of dogs and cats.

Materials and Methods

In this study, we examined 226 labels of commercial extruded dry complete foods intended for healthy adult dogs and 124 labels of foods for healthy adult cats. Information about protein and fat levels used in this analysis was directly obtained from product packaging. The protein and fat contents included in this analysis were those presented on the food labels. The equations used for determining the maintenance energy requirement (MER) were $95 \times (\text{body weight})^{0.75}$ and $75 \times (\text{body weight})^{0.67}$, respectively for dogs and cats, following FEDIAF (2021) guidelines. Based on these calculations, the recommendation for an energy restriction of 10% of MER according to WSAVA and AAHA was applied for the inclusion of treats, considering any type of food, from vegetables to commercial treats, with varying nutritional values. The results were presented in the form of frequencies.

Results

It was found that 97.32% (n=218/224) of the diets intended for dogs met or exceeded the recommended minimum protein quantities, as shown in Table 1.

Table 1. Minimum protein and fat recommendations for dogs and the percentage of diets that did not meet the recommendations after a 10% reduction in MER.

Dogs		
Nutrients	Adults based on the MER of:	
	95kcal/kg ^{0,75*}	DNM ^{10MER}
Protein	52,1g/1000kcal	2,68%
Fat	13,75g/1000kcal	0,00%
Cats		
Nutrients	Adults based on the MER of:	
	75kcal/kg ^{0,67*}	DNM ^{10MER}
Protein	83,3g/1000kcal	60,48%
Fat	22,5g/1000kcal	51,61%

*FEDIAF (2021); DNM^{10NEM}: diets that did not meet the recommendation after a 10% reduction in MER.

Regarding the fat content of dog foods, based on the minimum recommendations for inactive and active dogs, all of them provided or exceeded the recommended minimum. However, for cats, when the equation for inactive animals was used, 51.61% (n=64/124) did not provide the necessary minimum of fat. On the other hand, for

inactive cats, 60.48% (n=75/124) of diets did not meet the recommended minimum for protein (Figure 1). Regarding the fat levels in dog food, based on the minimum recommendations for both inactive and active dogs, all of them provided or exceeded the recommended minimum. However, for cats, when the equation for inactive animals was applied, 51.61% (n=64/124) did not provide the necessary minimum fat. On the other hand, for inactive cats, 60.48% (n=75/124) of diets did not meet the recommended minimum protein (Figure 1).

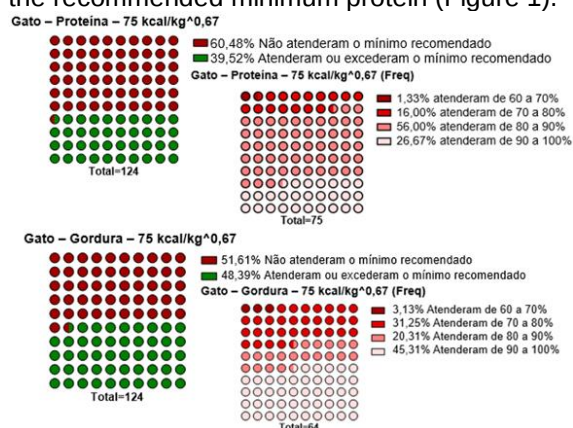


Figure 1. Distribution of diets for cats based on minimum protein recommendations and maintenance energy requirement according to FEDIAF (2021).

The inclusion of treats did not result in imbalances in protein and fat levels for the majority of dog diets. However, Zafalon et al. (2020) identified inconsistencies between the nutritional analyses and the information on labels, supporting the hypothesis that the inclusion of these foods can lead to nutritional imbalances. The high percentage of cat diets showing imbalances in protein and fat levels when restricted to 10% is concerning, as deficiencies in amino acids and essential fatty acids for cats pose health risks. Deficiencies in these nutrients in cat diets can lead to hyperammonemia and other consequences (MORRIS & ROGERS, 1978). Similarly, cats deficient in arachidonic acid may experience thrombocytopenia, platelet aggregation, and reproductive disorders (MACDONALD et al., 1984).

Conclusions

It is concluded that the recommendation for the inclusion of treats proposed by WSAVA and AAHA, combined with the predictive MER equation established by FEDIAF (2021) for inactive animals, may lead to risks of nutritional deficiencies in cats.

Acknowledgements

To Premier Pet company for their structural and financial support for the study. To CEPEN PET and all postgraduates and their collaborators..

References

- CLINE, M.G. et al., 2021. AAHA Nutrition and Weight Management Guidelines for Dogs and Cats. *Journal of the American Animal Hospital Association*, 57(4), p.153–178.
- FREEMAN, L., et a., 2011. WSAVA Nutritional Assessment Guidelines. *Journal of Feline Medicine and Surgery*, 13(7), p.516–525.
- MACDONALD, M.L., et al., 1984. Essential fatty acid requirements of cats: pathology of essential fatty acid deficiency. *American Journal of Veterinary Research*, 45(7), p.1310–1317.
- MORELLI, G., et al., 2020. Survery of Dog Owners'Attitudes toward Treats. *Journal of Applied Animal Welfare Science*, 23(1), p.1-9.
- MORRIS, J.G & ROGERS, Q.R. Ammonia intoxication in the near-adult cat as a result of a dietary deficiency of arginine. (1978). *Science*, 199(4327), p.431–432.
- PORSANI, M.Y.H. et al., 2020. Prevalence of canine obesity in the city of São Paulo, Brazil. *Scientific Reports*, 10(1), 14082.
- ZAFALON, R.V.A., et al., 2020. Comparison of methodologies for fat determination and evaluation of calcium and phosphorus content in snacks for dogs. *Brazilian Journal of Veterinary Research and Animal Science*, 57(2), p.1–8.