



# Survey on the role of nutrition in first-opinion practices in Austria and Germany: An evaluation of knowledge, preferences and need for further education

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## Abstract

A survey was conducted among first-opinion practices in Germany and Austria on dog nutrition consultation, food sold in the practice, recommendations given to owners, most commonly encountered consequences of malnutrition, need for further education and feeding of own dogs. Of the 169 participants, one third was from Austria, two thirds from Germany. Most practiced in the countryside or in suburbs, were female and between 36 and 55 years old. The majority felt that nutrition has become an important topic, and that “feeding myths” were on the rise. However, only in 18% of the practices at least one staff member had further education in nutrition, while none of the participants had a national or international degree. Only half of our participants felt qualified to give nutrition advice. A nutritional assessment was not regularly performed, and the Body Condition Score was not regularly assessed, often only when health problems were obvious. If a homemade diet was requested, practitioners rather referred to a nutritionist, while 25% left it up to the owners. Most relied on traditional premium diets for their patients and also for their own dogs. Feeding myths seemed to be widespread among veterinarians, too; even Biologically Appropriate Raw Feeding and diets not complying with EU legislation were recommended. There is obvious need for further education and specialization to establish nutrition consultation as a profitable service in small animal practice.

## KEYWORDS

assessment, continuing education needs, feeding, food sales, myths

## 1 | INTRODUCTION

Nutrition is a popular and often emotional topic among dog owners, which rather rely on information from the Internet or from lay people, like breeders, dog trainers, pet shop assistants or other dog owners (Handl, Zimmermann, & Iben, 2012) than from veterinarians. The image of commercial dog food has suffered over the last years from rumours and conspiracy theories about low-quality ingredients and negative health effects, spread mainly on social media, but also in the daily press and books (Grimm, 2007; Ziegler, 2016). There is a strong tendency to regard dogs as “little wolves on

the sofa” although they have adapted to human lifestyle over the last thousands of years and even changed their digestive physiology (Axelsson et al., 2013). Thus, marketing strategies using these clichés and emotionalized pictures have become popular (e.g. to avoid unpopular wording like “additives”; Gerstner & Liesegang, 2018).

On the other hand, homemade diets and especially raw feeding (Biologically Appropriate Raw Feeding [BARF]) are on the rise, entailing not only risks for both owners and pets alike (Dillitzer, Becker, & Kienzle, 2011; Freeman, Chandler, Hamper, & Weeth, 2013; Handl et al., 2012; Kölle & Schmidt, 2015) but also requiring in-depth

knowledge and thorough nutritional assessment of patients to identify possible feeding mistakes.

A survey among first-opinion practitioners in Austria and Germany was conducted on the role of nutrition consultation and food sales, their education, knowledge and confidence, the most commonly encountered consequences of malnutrition, and the need for further education.

## 2 | MATERIALS AND METHODS

A questionnaire (created with Google Forms) consisting of 32 questions was sent to small and mixed-animal practitioners in Germany and Austria and posted in two large online forums exclusively for veterinarians in spring/summer 2016.

The questions included qualification and training of veterinarians, nurses and other employees; dog food products sold in the practice, nutrition consultation and recommendations given to owners, most commonly encountered consequences of malnutrition, experiences with myths and trends, need for further education and feeding of own dogs. The answers were single-choice and the vets could leave comments and the last question ("How do you feed your own dogs?") was open.

Data were analysed descriptively. The results are given in percent if not mentioned differently.

## 3 | RESULTS

Demographic data of the 169 veterinarians who answered the questionnaire are shown in Table 1.

Data on nutrition consultation and education in nutrition of participants are presented in Table 2. In the majority of practices nobody had a special education in nutrition. The remaining 18.9% answered vaguely which type of special education they had, like "presentations from pet food companies," "online courses" or "ration calculation courses." An interest in further education was expressed by more than 40% of participants.

Answers concerning dietary assessment performed and recommendations given are summarized in Table 3.

When asked to name brands they usually recommend, 103 participants did so, and most of them named more than one. Royal Canin was called 81 times, Hill's 69 times, Vet-Concept 61 times, Trovet 13 times, Futralis and Farmina four times each, Happy Dog three times, Perro twice; two persons wrote "all premium brands." The following were mentioned once: Pet Fit, Nutrilabs, Animonda, Calibra, Terra Canis, Advance, Eukanuba, Josera, Bosch, Belcando. One person specifically recommended "raw feeding."

Several veterinarians named certain brands they advise against, like Marengo, Frolic, Wolfsblut, Dr. Clauders (each mentioned once). Further comments were as follows: "I advise on important ingredients," "we calculate food using a software" and "we consult individually" (twice).

**TABLE 1** Demography of participating veterinarians

Answers	%
Country	
Austria	34.3
Germany	65.1
Unknown	0.6
Location of practice	
Countryside	45
Suburbs	31.4
City	22.5
Other	1.1
Gender	
Male	25.4
Female	74.6
Age (years)	
25-35	13.6
36-45	27.2
46-55	38.5
>55	20.5

When participants had to choose from a list of brands of therapeutic diets, 22.4% recommended Royal Canin, 16.4% recommended Vet-Concept (a German brand) and only 9.2% recommended Hill's; while 48% recommend more than one of those brands and 3.4% choose none of those.

Comments concerning the request for a homemade diet were as follows: "people obtain calculations in BARF shops" ( $n = 1$ ); "dogs become overweight" ( $n = 1$ ); "owners find rations on the internet" ( $n = 1$ ): five veterinarians wrote "BARF is not an option, we do actively advise against it"; one of those, however, would make an exception "when the owner seems very well informed." One veterinarian mentioned to refer to a specific nutritionist practice in southern Germany, another to the LMU University Munich. One considered a homemade diet "only when owners specifically ask for it," another added "people are hard to advise."

Consequences of malnutrition/wrong feeding most commonly observed were obesity (90.5%), growth disturbances in puppies (1.8%) and other problems (7.7%). Nobody detected "malnutrition/underweight" or "lack of nutrients."

As "others" the following were mentioned: digestive problems (4), skin problems (4), tartar (1), allergies (3), diabetes (2), urolithiasis, infections, problems of various organs, deficiencies of the immune system (once each) and five wrote "multiple options."

Answers concerning the participants' assessment of owners' attitude towards nutrition are summarized in Table 4.

Concerning owner's sources of information, participants added: butchers (BARF-shops), lay nutritionists, alternative practitioners (one each).

Comments on "myths and trends" were as follows: "popularity of these trends is on the rise," "I refer these dog owners to a specialist,"

**TABLE 2** Answers on nutrition consultation, confidence in knowledge and need for further education

Question	Possible answers	%
Do you offer nutrition consultation	No	75
	Yes	25
Who gives nutrition advise	Veterinarian	54
	Nurse/assistant	2.4
	Both	40.8
Does a member of the practice have special education in nutrition	No	81.1
	Yes	18.9
Interest in further education in nutrition	No	29.5
	For vets	18.7
	For nurses/assistants	9.6
	For both	42.2
Did you participate in further education in nutrition in the last year	Yes	42.6
	No	57.4
Do you feel well enough informed to advise owners of healthy dogs	Yes	50.9
	Not sure	39.6
	No	9.5
Do you feel well enough informed to advise owners of sick dogs	Yes	68.5
	Not sure	26.8
	No	4.7
Do you sell food	Different kinds	55.6
	Therapeutic diets only	26.3
	Supplements only	16.9
	Non-therapeutic food only	0.6
	Snacks only	0.6

“wheat is bad,” “vegetarian trend is a problem.” One stated that he/she “was a specialist,” while another one contradicted “BARF is not a trend.”

Of the 169 participants, 75.5% owned dogs themselves. A total of 122 answered what they fed their dog(s), and most of them gave more than one answer, so the absolute numbers are listed here: 29 answered to feed “commercial food,” 25 mentioned “Royal Canin”; 17 fed dry food, 16 fed “BARF/meat,” 15 mentioned “Hill’s,” 12 fed “mixed varieties,” 10 mentioned “Vet Concept,” eight fed “cooked, also table scraps, leftovers,” four chose “canned food,” three had calculated rations for their own dogs (of which one wrote it was calculated based on the principles of Traditional Chinese Medicine), three named “Rinti,” two mentioned “Aldi” (discounter). The following were mentioned once: Pet Fit, Pedigree, Josera, Marksmühle, Futalis, Bonzo, Dr. Clauder’s, VetLife, Farmina, Reico, Vet Essentials, Naturavetal.

## 4 | DISCUSSION

Small animal practitioners seem to agree that nutrition has become an important topic to owners, and that “feeding myths” are on the rise (Bergler, Wechsung, Kienzle, Hoff, & Dobenecker, 2016). Despite

**TABLE 3** Answers regarding dietary assessment performed and recommendations given by the participants

Question	Possible answers	%
When do you address nutrition in adult dogs	At every visit	31.4
	Only at the first visit	1.1
	When I suspect a nutrition-related problem	67.5
	Never	0
Do you educate puppy owners on nutrition	Always	75.6
	Only large breeds at high risk for orthopaedic disease	20.8
	When there is nutrition-related disease	3.6
	Never	0
How do you evaluate growth of a puppy	Eye measure/experience	57.7
	Growth curve	19.6
	Other	4.8
	Never	17.9
Do you measure body weight	Only when drugs are given	12.4
	Only when the dog seems overweight/underweight	0.8
	All of the above	20.1
	At every visit	63.9
	Never	2.8
Do you estimate BCS	Yes	17.8
	No	78.7
	Other methods	3.5
Which type of feeding to you recommend	Commercial diets	62.7
	Home cooked	2.4
	Raw	2.4
	Mixed	25.4
	Other	7.1
Do you recommend certain brands	Yes	33.5
	No, I trust commercial diets in general	26.9
	I advise against certain brands	39.5
What do you do when an owner wants to feed a homemade diet	Refer to specialist	49.7
	Offer ration calculation	11.7
	Leave it up to the owner	25.1
	Other	13.5

that trend, only in 18% of the practices at least one staff member had some kind of further education in nutrition (see Table 2). When asked for details on these education, “seminars organized by dog food companies” or “ration calculation courses” were mentioned. None of the participants had a national or international certified qualification in nutrition.

This might explain the perceived lack of knowledge, as only half of our participants felt qualified enough to give nutrition advice for healthy dogs. Similar results were found by Bergler et al. (2016) and Siebert, Schmidt, Haense, and Coenen (2016) in Germany, and Bryant

Question	Possible answers	%
Do you consider nutrition an important topic for dog owners	Yes	60.7
	No	39.3
Where do you think owners find information on nutrition	Internet	45.8
	"Dog professionals" like breeders, trainers	28.6
	Other dog owners	17.3
	Expert literature	2.3
	Others	6.0
Are you confronted with "myths and trends" (like grain free, BARF, vegetarian/vegan dog food)	Very often	54.8
	Now and then	36.3
	Rarely	7.7
	Never	0.5
	Don't know	0.7
Do you think owners consider the price as an important factor when choosing a diet	Yes	33.9
	Quality is more important	49.4
	Cannot say	14.3
	Others	3.4

**TABLE 4** Answers to questions concerning owners' attitude towards nutrition

and Lumbis (2017) in Great Britain. It is often reported by practitioners, and also the experience of the authors, that owners interested in nutrition find ample, but confusing information on the Internet and thus will confront the veterinarian with detailed questions on physiology, requirements and pseudo-scientific statements. To answer them, an in-depth knowledge is required, which exceeds the basic knowledge of many general practitioners (Laflamme, Izquierdo, Eirmann, & Binder, 2014; Siebert et al., 2016). The fact that participants in our survey mistakenly named diseases as consequence of wrong feeding, like allergies or tartar, shows that also veterinarians are not immune against rumours, since these diseases are often described as alleged consequences of "bad commercial pet food" (Grimm, 2007; Ziegler, 2016).

Only 25% of our participants offered nutrition consultation as a service, and only about one third actively addressed feeding in every patient. Other surveys found similar results (Bergler et al., 2016; Siebert et al., 2016). Even 70% of 214 German veterinarians (Bergler et al., 2016) stated that nutrition was neglected in everyday practice. Reasons might be the lack of time for a lengthy nutrition consultation in everyday practice or the unwillingness of the owners to pay for an extra service (Siebert et al., 2016).

On the other hand, consequences of nutrient deficiencies might be underdiagnosed, since none of the participants listed them when asked for "consequences of wrong feeding." Especially in raw food diets ("BARF"), deficiencies can be expected (Dillitzer et al., 2011; Handl et al., 2012) and should therefore always be considered as differential diagnosis. This, however, requires a detailed nutritional assessment. Since 67.5% of veterinarians stated that they addressed feeding in adult dogs only when they suspected a problem, deficiencies in clinically unremarkable dogs might be ignored until they become evident.

The by far most recognized consequence of wrong feeding is obesity. More than 80% of participants weighed their patients at least occasionally, whereas only 17.8% performed a Body Condition Score

(BCS). Since it is easy, fast and not invasive, BCS is recommended as part of the nutritional assessment at every visit to establish patterns over time (Jeusette et al., 2010). Mentioning obesity and wrong feeding habits can be challenging, since owners often do not want to admit their mistakes and the damage they are doing, they might not be aware of the consequences on their pet's health, or they might be afraid that changing the feeding habits might affect their relationship to their pet in a negative way (Kienzle, Bergler, & Mandernach, 1998). The veterinarians questioned by Bergler et al. (2016) even presumed it more likely that owners gave wrong information on feeding than on other sensitive questions, like housing or financial situation.

Checking the body weight is of special importance in growing puppies to avoid orthopaedic disease caused by too fast growth. However, only 20% of our participants used a growth curve to assess the growth rate, while 58% relied on their "eye". Too rapid growth is the main reason for developmental orthopaedic disease in large breed dogs (Beuing, Mues, Tellhelm, & Erhardt, 2000; Hazewinkel & Mott, 2006; Zentek, 2016) and owners might not be aware that their feeding directly influences growth and therefore health. At least, more than 75% inform puppy owners about the importance of correct nutrition and growth.

Almost all participants sold at least some kinds of food products. About a quarter offers therapeutic diets only, while more than half offer dietetic food and supplements. Sold and recommended are mainly leading brands, and nearly half of the veterinarians thought that the price is not the main decision factor for the owners. Sales turnover in the pet food sector was 3.02 bio. € in Germany in 2018 of which only 4.4% were generated in veterinary practises (Industrieverband Heimtierbedarf, 2018). So obviously, pet owners are willing to spend money on food, but prefer other sources than the veterinary practice. Confronted with lower prices on the Internet and conspiracy theories about "veterinarians being the stooges of the pet food industry,"

veterinarians should be more self-confident and make sure to not only sell “dog food” but their expertise and knowledge along with it.

Most veterinarians fed the same brands they were selling and recommending to their clients also to their own dogs, showing their trust in these products. However, among recommend or fed brands also such not complying with EU feed legislation are listed, mostly because they claim to be complete diets without nutritional additives. This leads us to the assumption that some veterinarians are not able to assess commercial diets and/or are lacking knowledge in food production and legislation or the time to do so.

Other veterinarians of our study population actively recommend raw feeding, while even more fed raw meat, at least occasionally, to their own dogs. Most expert statements on raw feeding are clear and unanimous, since there is no documented evidence for benefits of raw compared to cooked meat, but some well-documented risks of common BARF practice, mainly unbalanced nutrient supply, contamination with pathogens and injuries caused by bones (Vecchiato & Dobenecker, 2018; WSAVA, 2015). If dogs shedding pathogens are taken to the practice, they will become an infection risk for clients and their (often sick) pets alike. Therefore, vets who decide on this way of feeding or recommend it to their clients should make sure to educate themselves and others about optimum hygiene standards, and should send the clients to a nutritionist to have a balanced ration calculated.

In contrast, five participants clearly stated that they strongly advise against BARF—which is, however, only a minority of our study population. Some of the reasons why not other practitioners take this position, which is after all the agreement of the scientific community (WSAVA, 2015), might be again lack of knowledge (see Table 2; also Bergler et al., 2016 and Bryant & Lumbis, 2017 came to similar conclusions), lack of time, the wish to avoid lengthy discussions or the fear of losing clients (Vandendriessche, Hesta, & Picavet, 2017; pers. comm. with practitioners).

When confronted with the owner request for a homemade diet, almost 50% referred to a nutrition specialist. It is, however, alarming that 25% leave it up to the owners to calculate the rations themselves. Regarding the degree of misinformation on the Internet and in books, this will most likely lead to malnutrition (Wilson, Villaverde, Fascetti, & Larsen, 2019).

Main limitation of our study is the small number of participants (169) compared with the number of veterinarians currently practicing in Austria (about 4,000) and Germany (about 40,000), but is similar to other, recent surveys, like Bergler et al. (2016) and Siebert et al. (2016) in Germany, or Bryant and Lumbis (2017) from Great Britain, allowing an overview of the situation in small animal practice.

Concluding from our results, further education seems needed and nutrition consultation should have more room in everyday practice. There is room for investing more time and effort and charging for consultations and clearly also more room for sales.

## ANIMAL WELFARE STATEMENT

The authors confirm that the ethical policies of the journal, as noted on the journal’s author guidelines page, have been adhered to. No

ethical approval was required as this is survey data and no animals were involved.

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