

# Determining pet owners' level of awareness about probiotics for pet care in Ankara

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**Abstract:** Dogs and cats, provide significant benefits to individuals and to society, since they can contribute to physical, social, and emotional development of their owners. Specific probiotic strains and their defined combinations may be useful in the canine and feline nutrition, therapy and care. The objective of this study was to determine the awareness about probiotics of pet owners with a survey in Ankara, the capital city of Turkey. Pet owner's level of awareness about probiotics for pets, the importance of education level on this awareness and the effect of living in different counties to the participants' awareness were evaluated. As a conclusion, there is a low level of probiotic use for cats and dogs however the use of probiotics is higher at participants who have graduate level in Ankara.

**Keywords:** Awareness, pet owners, probiotics

## Ankara'daki pet sahiplerinin pet sağlığında probiyotikler ile ilgili bilinç düzeylerinin belirlenmesi

**Öz:** Kedi ve köpekler, sahiplerine sundukları fiziksel, sosyal ve duygusal katkılarıyla, birey ve toplumlara belirgin faydalar sağlarlar. Belirli probiyotik ve tanımlanmış kombinasyonları, köpek ve kedilerin beslenme, tedavi ve bakımlarında faydalı olabilir. Bu çalışmanın amacı, Türkiye'nin başkenti olan Ankara'da pet

hayvanı sahiplerinin probiyotik hakkındaki farkındalık seviyelerini belirlemektir. Pet hayvanı sahiplerinin hayvanları için probiyotik kullanımı ile ilişkili bilinç düzeyi, eğitim seviyesinin pet hayvanlarında probiyotik kullanımı üzerine etkisi ve farklı ilçelerdeki katılımcıların bilinç düzeyleri değerlendirildi. Sonuç olarak, kedi ve köpekler için probiyotik kullanımının hayvan sahipleri arasında düşük seviyelerde bulunduğu, bunun yanında Ankara ilinde eğitim seviyesi yüksek pet sahiplerinin probiyotik kullanım oranlarının daha yüksek olduğu tespit edildi.

**Anahtar kelimeler:** Bilinçlilik, pet sahipleri, probiyotikler

## Introduction

Probiotics are live microorganisms that confer health beneficial effects to the host when consumed in controlled and adequate amount as a single strain or combination of strains (2). The health and well-being of companion animals, just as their owners, depend on the health of their microbiota (12). Probiotics have also been used for many years in animal husbandry and have been demonstrated to be effective in improving gastrointestinal health (6). In the case of companion animals, particularly dogs and cats, less is known about the potential application of probiotics even though there are some studies about probiotics with pets (7).

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Pets, provide significant benefits to individuals and to society, since they can contribute to physical, social, and emotional development of children and the wellbeing of their owners; however, hygiene and dietary habits of the animals make them particularly prone to having a range of infectious diseases during their life (1). During the last years probiotics have been used on pets with increasing frequency in nutrition, for prophylactic and treatment purposes (11). Probiotic supplementations have been successful in the revention and treatment of acute gastro enteritis, treatment of IBD, and prevention of allergy in companion animals. New challenges for probiotic applications include maintenance of obesity and overweight, urogenitaltract infections, *Helicobacter gastritis*and parasitic infections. The probiotics of human origin appear to be among the new promising tools for the maintenance of pets' health (5).

Specific probiotic strains and/or the irdefined combinations may be useful in the canine and feline nutrition, therapy, and care (9). A large number of probiotic products are available commercially for utilization in dogs and cats. They are available in tablet, capsule, paste, and liquid forms. Some commercial dog and cat foods also claim to contain probiotics (12). On the other hand, there are some commercial probiotic products to be used for pet's coat care, breath spray orstain and odor remover besides feed additives.

Evaluation studies for the consciousness of probioticsin petowners have not been reported. The goal of this survey was to determine the pet owner's awareness about probiotics in the capital city of Turkey, Ankara.

## Materials and Methods

The survey on pet owners was carried out on 250 (n=250) people in Ankara between May – September 2014. The data were collected from a total of 250 pet owners, who were selected randomly from veterinaryclinics. The survey data was composed of veterinaryclinics which are located at five differentregion of Ankara. Regarding to the potential of pet amounts, center region of Ankara and four regions around of it were selected as Çankaya, Keçiören, Altındağ, Gölbaşı and Yenimahalle. Survey was ended when the number has reached to 50 participant for each region. The survey questions were prepared by there searchers with searching related literatures.

Age,educational backgrounds and knowledge on probiotic of participants; species and age of their pets were evaluated at the scope of survey.

Two forms of survey questionnaires were employed; close-ended structured questionnaire sand open-ended questionnaires. All the participants provided consent for the survey. A random sampling technique was employe-dthroughoutthe survey period. It was asked the participant stoanswer the questions about their education level, knowledge of probiotic and usage of probiotics for their dogs or cats.

The closed-end edquestionnaires were administered to each participant at the place of veterinary clinics. The participants were asked to indicate what are there ducation levels, professions, status of probiotic knowledge and status on probiotics usage, species of their pets. The participants were also asked if they know any probiotic species. With the open-ended questionnaire, it was asked to theparticipants about there as onto use or not touse of probiotics.

The data obtained from the survey were analyzed using chi-square test to control the difference of frequency distribution in terms of statistic. SPSS 14.01 program was used and all statistic analysis inspected with the minimum tolerance of 5%.

### Results and Discussion

The participants who have high educational levels had more knowledge on probiotics, which means an association between education

on all level and knowledge on probiotics was significant as seen from Table 1. It was observed that there is a difference between primary school graduates and others. There wasn't any difference between other graduates.

In addition, with the evaluation of the usage of probiotics and education level, with the participants who has graduate level shows a higher percentage of probiotics usage (Table 2).

**Table 1:** Association between education level and knowledge on probiotics

**Tablo 1:** Eğitim seviyesi ve probiyotik bilgisi arasındaki ilişki

Education Level	Knowledge on Probiotics				P
	Available		Non available		
	N	N%	N	N%	
Graduate <sup>b</sup>	7	39%	11	61%	0,03
Undergraduate <sup>b</sup>	38	29%	91	71%	
High school <sup>b</sup>	14	18%	66	83%	
Elementary <sup>a</sup>	2	9%	21	91%	

Different letters within rows denote significant difference at  $p < 0.05$ .

**Table 2:** Association between education level and probiotics usage

**Tablo 2:** Eğitim seviyesi ve probiyotik kullanımı arasındaki ilişki

Education Level	Probiotics Usage				P
	Available		Non available		
	N	N%	N	N%	
Graduate	3	17%	15	83%	0,476
Undergraduate	9	7%	120	93%	
High school	7	9%	73	91%	
Elementary	1	4%	22	96%	

With the consideration of the probiotics knowledge and the usage of probiotics, results showed statistical differences. It was found that the participants who use probiotics had information about the probiotic products which they use (Table 3).

**Table 3:** Association between probiotics knowledge and usage of probiotics**Tablo 3:** Probiyotik bilgisi ve probiyotik kullanımı arasındaki ilişki

Probiotics usage	Probiotics Knowledge				P
	Available		Non available		
	N	N%	N	N%	
Yes	19	95%	1	5%	<0,001
No	42	18%	188	82%	

Given Çankaya and Keçiören counties were found to have high awareness of probiotics than the others when the probiotic knowledge and participation county were evaluated. However, in terms of the usage of probiotics in Çankaya and Yenimahalle was seen higher than the usage levels of other counties (Table 4 and Table 5).

**Table 4:** Association between county of participations and probiotic knowledge**Tablo 4:** Katılımcı ilçesi ve probiyotik bilgisi arasındaki ilişki

County of Participation	Knowledge on Probiotics				P
	Available		Non available		
	N	N%	N	N%	
Çankaya	19	33%	38	67%	0,08
Altındağ	11	22%	40	78%	
Gölbaşı	5	12%	37	88%	
Yenimahalle	10	20%	40	80%	
Keçiören	16	32%	34	68%	

*Different letters within rows denote significant difference at  $p < 0.05$ .*

**Table 5:** Association between county of participation and probiotics usage**Tablo 5:** Katılımcı ilçesi ve probiyotik kullanımı arasındaki ilişki

County of Participation	of	Probiotics Usage				P
		Available		Non available		
		N	N%	N	N%	
Çankaya	b	8	14%	49	86%	0,009
Altındağ	c	1	2%	50	98%	
Gölbaşı	c	0	0%	42	100%	
Yenimahalle	a	8	16%	42	84%	
Keçiören	c	3	6%	47	94%	

When examined the reasons of the usage of probiotic, the recommendation of veterinary was proved to be quite effective over the users (Table 6)

**Table 6:** Reasons of probiotic usage or non-usage for participants**Tablo 6:** Probiyotik kullanım ve yakullanılmamasebepleri

Reason of usage / non-usage	Probiotics Usage				P
	Available		Non available		
	N	N%	N	N%	
None	8	4%	217	96%	
Lack of knowledge	1	9%	10	91%	<0,001
Veterinarian advice	11	79%	3	21%	

### Discussion and Conclusion

Probiotics have been defined in several ways, depending on our understanding of the mechanisms of action of their effects on health and well-being (10). At present, the probiotics is at nascent stage and awareness of usage for pets is limited to urban areas. The knowledge about their use and benefits have to be imparted in Turkey. Regular use of probiotics could improve the quality of life and reduce the dependence on drug and medical expenses for both human and animals.

The majority of clinical trials assessing the efficacy of probiotics in veterinary patients relate to the gastrointestinal system. Their use in the Turkey is particularly common in animals suffering from diarrhea; a publication showed they were prescribed in up to 26 per cent of cases of acute canine diarrhea that presented to vets in general practice (3). Probiotics have also been evaluated in diseases of the urinary tract, pancreas, kidneys and skin of animals (4,8).

With this survey, pet owner's level of awareness about probiotics for pets, the importance of education level on this awareness and the effect of living counties to the participants' awareness were evaluated. It was observed that there is a low level of probiotic use for cats

and dogs and the usage of probiotics is higher at participants who have graduate level. Also it was shown that the awareness of probiotics were found lower in Yenimahalle, Gölbaşı and Altındağ than Keçiören and Çankaya.

In addition, when the county of participations was evaluated with their socio-economic conditions, awareness and usage of probiotics were found higher at Çankaya than the other counties. In view of parameters which are evaluated in this survey, we believe that the awareness about probiotics can be constituted by veterinarians with raising of pet owners' consciousness about probiotics and their benefits to pet animals.

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