

## ORIGINAL ARTICLE

## Comparison of Pet Owners and Non-Pet Owners in Terms of Depression, Anxiety and Quality of Life

## Evcil Hayvan Sahibi Olanlar ve Olmayanların Depresyon, Anksiyete ve Yaşam Kalitesi Açısından Karşılaştırılması

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## ABSTRACT

**Objective:** In this study, it was aimed to compare pet owners and non-pet owners in terms of depression, anxiety and quality of life.**Methods:** A total of 397 healthy volunteers over the age of 18, 192 pet owners, and 205 non-pet owners were included in our study. Sociodemographic data form, World Health Organization Quality of Life Scale-Short Form (SF-36), and Hospital Anxiety and Depression Scale (HADS) were administered to all participants.**Results:** Of all participants, 60.2% (n=239) were female and 39.8% (n=158) were male. The mean age of pet owners (36.74±9.56) was similar to non-pet owners (35.52±9.16) (p=0.194). The mean depression scores of pet owners (4.39±3.37) were significantly lower than non-pet owners (6.02±3.72) (p<0.001). The mean anxiety scores of pet owners (5.82±3.49) were significantly lower than non-pet owners (7.24±4.07) (p<0.001). Physical function, emotional role function, energy vitality, mental health and pain mean scores of SF-36 subscales were found to be significantly higher in pet owners (respectively; p=0.020, p=0.020, p=0.039, p=0.031, p=0.025).**Conclusion:** It can be said that pet owners have a lower risk of depression and anxiety, and in many fields have a better quality of life.**Keywords:** Pet, Cat, Dog, Depression, Anxiety, Quality of Life

## ÖZ

**Amaç:** Bu çalışmada, evcil hayvan sahibi olan kişilerle evcil hayvan sahibi olmayan kişilerin depresyon, anksiyete ve yaşam kalitesi açısından karşılaştırılması amaçlanmıştır.**Yöntem:** Çalışmamıza, 192 evcil hayvan sahibi olan ve 205 evcil hayvan sahibi olmayan 18 yaş üstü toplam 397 sağlıklı gönüllü dahil edilmiştir. Tüm katılımcılara sosyodemografik veri formu, Dünya Sağlık Örgütü Yaşam Kalitesi Ölçeği-Kısa Formu (SF-36) ve Hastane Anksiyete ve Depresyon Ölçeği (HADO) uygulanmıştır.**Bulgular:** Tüm katılımcıların %60.2'si (n=239) kadın, %39.8'i (n=158) erkekti. Evcil hayvan sahibi olanların yaş ortalaması (36.74±9.56), evcil hayvan sahibi olmayanların yaş ortalaması (35.52±9.16) ile benzerdi (p=0.194). Evcil hayvan sahibi olanların depresyon puan ortalamaları (4.39±3.37) evcil hayvan sahibi olmayanlardan (6.02±3.72) anlamlı derecede düşüktü (p<0.001). Evcil hayvan sahibi olanların anksiyete puan ortalamaları (5.82±3.49) evcil hayvan sahibi olmayanlardan (7.24±4.07) anlamlı derecede düşüktü (p<0.001). Evcil hayvan sahibi olanlarda SF-36 altı ölçeklerinden fiziksel fonksiyon, emosyonel rol gücülüğü, enerji canlılık, ruhsal sağlık ve ağrı puan ortalamaları anlamlı olarak daha yüksek saptanmıştır (sırayla; p=0.020, p=0.020, p=0.039, p=0.031, p=0.025).**Sonuç:** Evcil hayvan sahibi olanların depresyon ve anksiyete açısından daha düşük riske sahip olduğu ve birçok alanda daha iyi bir yaşam kalitesine sahip olduğu söylenebilir.**Anahtar Kelimeler:** Evcil hayvan, Kedi, Köpek, Depresyon, Anksiyete, Yaşam kalitesi

## Introduction

The number of people who own pets all over the world has been increasing rapidly in recent years (1). Pets play important roles in people's lives, providing companionship and entertainment to people. There is evidence that owning a pet can improve human psychological health through the development of strong emotional bonds (2). Having a pet has many benefits in terms of mental health, such as reducing stress, increasing the quality of life, and supporting social interaction (3, 4). In a cross-sectional study of pet owners over the age of 13 living in Bangladesh, 140 pet owners and 140 non-pet owners were compared. It has been reported that pet owners are 41% less depressed than non-pet owners (5). In another study, it was shown that people with Acquired Immunodeficiency Syndrome (AIDS) who own a pet

report less depression than people with AIDS who do not own a pet (6). One study evaluated whether owning a pet contributes to long-term survival, independent of depression and anxiety, in patients who survived at least 6 months after myocardial infarction. In conclusion, not having a pet has been reported as the only significant independent predictor of mortality (7). The type of pet was also evaluated in studies. A Norwegian study reported that owning a dog showed better health outcomes than a cat or not pet owners. Cat owners reported worse general health (8). The number of studies evaluating the quality of life in pet owners is limited, and in a study evaluating the quality of life in pet owners in New Zealand, dog ownership was associated with significantly higher scores on physical quality of life only (9). The effect of owning a cat and/or dog on

quality of life was investigated during a strict lockdown period in Victoria, Australia, during the coronavirus 19 (COVID-19) pandemic. Pet ownership has been found to be significantly associated with lower quality of life (10).

Studies evaluating depression, anxiety, and quality of life together on this subject are rare. In this respect, our study can contribute to the literature. In this study, it was aimed to investigate whether there is a difference in depression, anxiety and quality of life between pet owners and non-pet owners.

**Materials And Methods**

**Sample**

Our study is a cross-sectional study conducted between 20 August 2021 and 20 September 2021. A total of 397 healthy volunteers, 192 people with pets and 205 people without pets, were included in the study. Sociodemographic data form, Hospital Anxiety and Depression Scale (11), World Health Organization Quality of Life Scale-Short Form (SF-36) (12) were administered to all participants. The surveys were created using Google Docs. We sent all participants an introductory note detailing the purpose of the study and an assurance that the confidentiality of the data would be preserved. A confirmation tab was added stating that participation in the survey was on a voluntary basis, and online consent was obtained from those who voluntarily agreed to participate in the study. After obtaining informed consent, those who agreed to participate in the study were able to continue to fill out the scales. This questionnaire was sent to all researchers' contacts using WhatsApp Messenger, an American free software owned by Facebook Inc., a cross-platform messaging service. The criteria for inclusion in the study were to be over the age of 18 and to be at least a primary school graduate. Exclusion criteria from the study were determined as having a severe internal disease that may affect the quality of life and having an active psychiatric disease. All stages of this study were carried out in accordance with the rules of the Declaration of Helsinki. Written ethics committee approval was obtained from XXXXX University Faculty of Medicine Clinical Research Ethics Committee with the decision number KAEK-602 on 18.08.2021.

**Statistical analysis**

SPSS 23.0 program was used for analysis. Kolmogorov Smirnov test was used for the assumption of normality. Descriptive variables are given as median, 25% and 75% quartiles (Q1-Q3), mean ± standard deviation, minimum, maximum, percentage and number. Chi-square test was used in the analysis of categorical data. In the comparison of the two groups, the T-test was used when the data were normally distributed, and the Mann-Whitney U test was used when the data were not normally distributed. The Kruskal Wallis H Test was used when the data were not normally

distributed in the analysis of the difference between the numerical values of the three or more groups. Spearman correlation analysis was used for correlation analysis.  $p < 0.05$  was considered statistically significant.

**Results**

239 (60.2%) of the participants were female and 158 (39.8%) were male. While 192 (48.4%) people had a pet, 205 (51.6%) people did not have any pets. Sociodemographic characteristics of pet owners and non-pet owners are summarized in Table 1.

**Table 1.** Comparison of sociodemographic characteristics of pet owners and non-pet owners.

	Pet owner (n=192)		Non-pet owner (n=205)		χ <sup>2</sup>	z	p
	n	%	n	%			
Gender	Female	111	57.8	128	62.4	0.886	0.347
	Male	81	42.2	77	37.6		
Marital status	Married	62	32.3	78	38.0	2.868	0.238
	Single	122	63.5	114	55.6		
Educational status	Primary school	1	0.5	1	0.5	0.460	0.574
	High school	10	5.2	14	6.8		
	University	181	94.3	190	92.7		
Pet type	Cat	128	66.7				
	Dog	38	19.8				
	Bird	21	10.9				
	Others	5	2.6				
Age (Year) (Median) (Q1-Q3)	36 (29-43)		34 (29.50-41)			-1.299	0.194
Duration (months) (mean±SD) (min-max)	45.27±59.09 (1-420)						
Number of pets (median) (min-max)	1 (1-40)						

Depression and anxiety mean scores of pet owners were found to be significantly lower than non-pet owners (respectively;  $p < 0.001$ ,  $p < 0.001$ ). SF-36 physical function, emotional role difficulty, energy vitality, mental health, and pain mean scores of those who own pets were found to be significantly higher (respectively;  $p = 0.020$ ,  $p = 0.020$ ,  $p = 0.039$ ,  $p = 0.031$ ,  $p = 0.025$ ). No significant difference was found in the mean scores of physical role difficulty, social functionality and general health (respectively;  $p = 0.443$ ,  $p = 0.070$ ,  $p = 0.211$ ).

Negative and significant correlations were found between depression and anxiety scores and SF-36 subscale scores (all p values < 0.001). When a comparison was made according to the pet type (cat, dog, bird, other), no significant difference was found

**Table 2.** Comparison of the quality of life scale (SF-36) and hospital anxiety and depression scale scores of pet owners and non-pet owners.

	Pet owner (n=192)	Non-pet owner (n=205)	z	t	p
Depression (mean±SD) (min-max)	4.39±3.37 (0-15)	6.02±3.72 (0-17)	-4.588		<0.001
Median (Q1-Q3)	3.50 (2-7)	6 (3-9)			
Anxiety (mean±SD) (min-max)	5.82±3.49 (0-16)	7.24±4.07 (0-20)	-3.550		<0.001
Median (Q1-Q3)	6 (3-8)	7 (4-10)			
Physical function (mean±SD)	90.47±13.66	85.98±19.07	-2.330		0.020
Median (Q1-Q3)	95 (86.25-100)	95 (80-100)			
Physical role function (mean±SD)	84.24±30.63	81.10±33.39	-0.767		0.443
Median (Q1-Q3)	100 (75-100)	100 (75-100)			
Emotional role function (mean±SD)	77.43±35.12	67.48±41.28	-2.320		0.020
Median (Q1-Q3)	100 (66.66-100)	100 (33.33-100)			
Energy vitality (mean±SD)	57.14±19.55	52.93±20.83		-2.072	0.039
Mental health (mean±SD)	65.29±16.60	61.35±18.05	-2.157		0.031
Median (Q1-Q3)	64 (52-80)	60 (48-76)			
Social function (mean±SD)	73.89±18.08	70.43±18.56	-1.809		0.070
Median (Q1-Q3)	75 (62.50-87.50)	75 (62.50-87.50)			
Pain (mean±SD)	83.83±16.93	79.68±18.94	-2.234		0.025
Median (Q1-Q3)	90 (77.50-100)	87.50 (67.50-90)			
General health (mean±SD)	66.80±14.72	64.87±15.79		-1.253	0.211

in terms of depression and anxiety scores (respectively;  $p=0.221$ ,  $p=0.144$ ). In addition, no significant difference was found in terms of quality of life according to the type of pet ( $p>0.05$  was found in all subscales when comparing the SF-36 subscale scores).

## Discussion

In our study, it was determined that the average score of depression and anxiety was lower in those who owned a pet. Pet owners were found to have a better quality of life in the areas of physical function, emotional role functioning, energy vitality, mental health, and pain.

In a study, it was reported that pet owners had lower depression scores compared to non-pet owners (5). In a meta-analysis to determine the effectiveness of animal-assisted activities and animal-assisted therapy to reduce depressive symptoms in humans, it was shown that animal-assisted activities and animal-assisted therapy were associated with fewer depressive symptoms (13). In another study, it was shown that even a short 20-minute session with a therapy dog can be an effective alternative intervention to reduce anxiety in students (14). In a study conducted in our country, 87 people who own pets and 68 people who do not have pets were compared. As a result of the study, the depression scale scores of those who did not own a pet were found to be significantly higher, but the anxiety scale scores were found to be similar in both groups (15). In a study by Bolstad et

al., it was shown that owning a pet was associated with fewer anxiety symptoms, even after calculating various demographic and economic variables (16). In our study, having a pet was associated with less depression and anxiety. It has been reported that there is a significant relationship between different social isolation indicators and loneliness and depressive symptoms in adults (17). Researchers have reported that living with animals has psychological benefits. These benefits have been reported as higher self-esteem, more positive mood, greater life satisfaction, and lower levels of loneliness (18). We think that the lower depression and anxiety levels in pet owners in our study may be related to these conditions.

In our study, depression, anxiety, and quality of life were found to be similar when compared according to the type of pet. There are different results in the literature on this subject, and there are studies reporting that cat owners have significantly lower levels of depressive symptoms than dog owners (19). In another study, it was found that the rates of depression in cat owners were higher than in dog owners and those who did not have pets (8). It has been reported that there is a significant relationship between the level of attachment to pets and mental health (20). The lack of difference between pet types in our study suggested that the levels of attachment to animals might be similar regardless of the pet type.

In our study, it was found that pet owners have a better quality of life in many areas than non-pet owners. In a

study, owning a dog was associated with significantly higher scores in physical quality of life. Having a pet other than a dog or cat was associated with significantly higher social scores. No difference was found in other quality of life domains (9). In another study, it was found that having a pet was significantly associated with lower quality of life (10). It has been reported that attachment styles to pets can affect the quality of life (21). We think that the different quality of life outcomes between studies may be related to this. In addition, studies have reported that anxiety and depression are independent predictors of poor quality of life (22, 23). In our study, significant relationships were found between quality of life and anxiety and depression. We think that a better quality of life in many areas may be associated with lower depression and anxiety levels in pet owners.

Our study is one of the limited numbers of studies conducted in our country on this subject and has a high sample size. These are the strengths of our study. The limitations of our study are that it is cross-sectional, based on self-report, and the pet attachment style was not evaluated. The fact that the number of samples was not determined by power analysis is another limitation of our study.

## Conclusion

We can say that having a pet may be associated with better mental health outcomes and better quality of life in many areas. Having a pet can have protective effects, given that mental health problems are on the rise around the world. Our study is one of the rare studies that found lower depression and anxiety levels and higher quality of life in pet owners together. We think that prospective studies with a larger sample size should be conducted on this subject.

## Conflict of Interest

None declared by the authors.

## Financial Disclosure

None declared by the authors.

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