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Studying the Link between Pet Ownership and Depression: A Cross-Sectional Comparative Observational Study

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ABSTRACT
Depression is a major cause of psychiatric illness worldwide. The link between pet keeping and depression is unclear, and there is hardly any data from India. Considering this research gap, prevalence of pet ownership in depressed patients compared to normal population was studied, along with preference of type of pets commonly kept. The study aimed to determine the prevalence of pet ownership in patients with depression compared to controls and also to explore kinds of pets patients with depression tend to keep. This was a cross-sectional, comparative study, conducted in Psychiatry OPD of tertiary municipal hospital after institutional ethics committee clearance. 200 persons between 18–65 years were sampled, comprising 100 patients with major depressive disorder and 100 controls (staff, students, and relatives). A semi-structured proforma was used for collecting details. The data was analyzed using appropriate statistical tests and $p \leq 0.05$ was considered as statistically significant. The depressed group had higher mean age (42.84 ± 14.40 vs. 32.72 ± 11.99), lower years of education (6.37 ± 3.6 vs. 12.56 ± 3.85), and had more married people. Controls were mostly students or employed. Pet-keeping was reported by 19% of patients versus 7% of controls. Cats (12 patients) were most common among cases, while controls had almost equal cats (3 patients) and dogs (4 patients). In most depressed patients (68%), pets were acquired after illness started. ***Conclusions****: Pet ownership was more prevalent in depressed patients, with cats being preferred pet. In most cases pets were taken after illness, pointing more towards a coping role rather than preventive.*
Keywords: *pets, dogs, cats, depression, psychiatric illness.*

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INTRODUCTION

The relationship between pet ownership and depression is complex, with findings across studies remaining inconsistent [1]. Some reports suggest that dog ownership may be associated with higher depressive symptoms [2,3], while others find no significant association [4,5]. Similarly, ownership of cats or other pets has not shown consistent protective effects though some reports suggest benefits in certain groups such as older adults [6]. What appears crucial is not merely the presence of a pet, but the quality of the human-animal bond [7,8]. While companionship and emotional support may be perceived as helpful, some studies paradoxically suggest that this same closeness can at times contribute to poorer outcomes in terms of anxiety or depression [7,8].

Internationally, pet ownership, especially of dogs, has been associated with increased opportunities for social interaction and physical activity [6,9], yet these benefits do not always translate into lowering rates of depression, particularly among older adults [5,10]. At the same time, systematic reviews have highlighted that evidence remains mixed, with both positive and null findings being reported [9,11,12]. In the Indian context, recent debates around the management of stray dogs have brought the broader issue of pet ownership into the public health spotlight [13,14], highlighting the need to understand both its advantages and challenges.

With this background, we carried out this study to determine the prevalence of pet ownership in patients with depression compared to controls and also to explore kinds of pets patients with depression tend to keep.

MATERIAL AND METHODS

This was a cross-sectional, observational study carried out in the psychiatry outpatient department of a tertiary care centre of Mumbai, India. The study was conducted after obstaining Institutional Ethics Committee approval and obtaining written informed consent from participants. This study included 200 patients of age group 18 to 65 years (2 groups; one consisting of 100 patients with Major Depressive Disorder, the other 100 being controls consisting of hospital staff, medical students, and relatives visiting OPD but not staying with patients.

Data was collected using semi structured proforma in which demographic details and details regarding pets were collected.

Statistical analysis:

The data collected was entered in Microsoft Excel and subsequently analyzed with the help of SPSS version 20. For comparison of categorical variables, the chi-square test was applied, while continuous variables were compared using Student's *t*-test. All tests were carried out as two-tailed, and a *p* value of ≤0.05 was taken as statistically significant.

RESULTS

Demographic data:

Table 1 describes the demographic details of study sample. The mean age was higher in the case group (42.84 years, S.D. 14.40) as compared to the control group (32.72 years, S.D. 11.99), the difference being statistically significant. There were more females in both groups (73 in cases, 67 in controls) and the gender distribution did not differ significantly. The mean years of education were significantly lower in cases (6.37 years, S.D. 3.6) as compared to controls (12.56 years, S.D. 3.85). Majority of the patients in the case group were married (85) whereas controls had a lower proportion of married individuals (54) with more singles. With respect to occupation, most of the cases were housewives (67), while in controls students (36) and employed individuals (42) were more common.

Prevalence of Pet Ownership:

Of the 100 patients with depression, 19 owned pets and 81 did not. In the control group, only 7 individuals reported owning a pet, while 93 did not. This indicates that pet ownership was more common among those suffering with depression than among controls.

Type of Pets:

Table 2 describes type of pets each group owned. Among the depressed group, cats were the most common pets, with 12 individuals keeping them. Dogs were accounted for by 4 people, and a few participants had other animals, such as a goat, hen, or sparrow (one of each). In the control group, pet ownership included 3 cats and 4 dogs, with no other animals reported. Thus, cat ownership was more frequent in the depression group, while controls kept cats and dogs in similar numbers.

Timing of Pet Ownership:

When asked about when they acquired their pet in relation to their illness, 13 patients (68%) said they got their pet after developing depression, while 6 (32%) had already owned their pet before their symptoms began.

Table 1: Demographic details of study population:

Parameters		Cases (N=100)	Control (N=100)	t/χ2 Value, p Value
Age (Mean ± SD)		42.84±14.40	32.72±11.99	-5.40, <0.01*
Gender	Male	27	33	0.85, 0.35
	Female	73	67	
Education (in years)		6.37 ± 3.6	12.56 ± 3.85	-11.73, <0.01*
Marital Status	Married	85	54	22.66, <0.01*
	Single	15	46	
Occupation	Employed	25	42	65.59, <0.01*
	Housewife	67	20	
	Unemployed	7	2	
	Student	1	36	

Table 2: Type of Pets in both groups:

Type of Pet	Cases (N=100)	Control (N=100)
Cat	12	3
Dog	4	4
Goat	1	0
Hen	1	0
Sparrow	1	0

DISCUSSION

In our study the mean age of the depressed patients was higher than the controls, and most of them were married females with lesser years of education. Housewives were also the most common occupation. This type of socio-demographic profile is quite commonly seen in Indian psychiatric samples. Similar findings have been described earlier where depressed patients were more often women, married and less educated [15]. Cherian et al. also reported that majority of dog owners were married females, which shows some overlap with our group [9]. International studies also mention that women and older adults are more likely to keep pets, although the exact effect on depression is unclear [3,6]. The demographic findings stand in concordance with other Indian and world research [15].

When looking at overall pet ownership, it was found to be higher in the depression group (19%) as compared to the controls (7%). There appears to be no existing Indian study which directly comparing depressed patients with controls on this point, making our study crucial. International literature shows mixed results. Some studies have found that pet owners suffer more depression [2,3,18,20], some found no relation [4,5,21], and some found benefit [3,6,16]. Different patterns were seen in younger population, where sometimes pets were found protective and sometimes associated with more stress [16-18, 20]. Reviews have also shown that evidence is not consistent and findings differ from place to place [9-12]. Our finding of more pet ownership among depressed patients could be because people with depression end up seeking pets as a form of companionship. This is supported by some reports which mention that lonely depressed persons are more likely to adopt animals [11,20,21].

In our study cats were the most common pets among depressed patients, while in controls cats and dogs were almost equal. This is in contrast with international studies which usually show dogs as most common pets, and also one linked with more socialisation and outdoor exercise [5,22]. In some cohorts, cats were not associated with major protective effects, while in others attachment to cats showed links with poorer outcomes, again supporting the idea that species preference and bond quality both play roles [23]. Cats may be preferred in our sample because they are easier to maintain, need less space and less effort as compared to dogs. Such a novel finding has not been often highlighted in previous psychiatric studies.

When we asked about timing of pet ownership, most of the depressed patients said that they had taken pets in after the illness started. This shows that pets may be used more as coping mechanisms rather than being preventive. Similar patterns are observed in other reviews, where pet attachment was linked with lesser depression but sometimes more anxiety, especially during COVID [12,19-21]. Our findings also point towards this type of interpretation. Some papers from outside the country have mentioned how pet ownership may reduce loneliness [11], and in our data too, what is of note is the timing; most of the patients started keeping pets only after they already had depression, not before.

In India also, the matter of pet keeping and the stray dogs has come into a lot of public scrutiny in recent times. This is because many cities and towns are facing the issue of large number of strays, which is creates concern for health and also safety. But if we see published work, there is hardly any proper Indian study connecting pet ownership with psychiatric illness, except few descriptive surveys [14]. So in that way our study adds novel information from this context.

At the same time, it should also be remembered that the animals, specially strays, are often treated with cruelty or neglect in the name of control, and this is a huge ethical and social welfare matter [13]. On the other side, earlier research has shown strongly that pets, particularly dogs, not only provide companionship but also teach children important social skills, taking responsibility, how to feel empathy, emotional regulation. In that way they may actually help in raising better human beings [24-27]. What is sustainable long-term is trying for a peaceful coexistence, keeping both human health and animal welfare intact.

Animal–human interaction is surely important for wellbeing, and many people even say that their pets are a significant emotional support, but this alone cannot be seen as treatment for psychiatric disorders. Research by Hawkins et al. is one of the rare qualitative studies which explores the lived experiences of people with pets and mental illness, and it shows the complex ways in which animals fit into coping [8].

In essence, our findings are in line with international evidence that the relationship between pets and depression is not straightforward. At the same time, our study throws light on some new points; like higher pet ownership among depressed patients in India, more preference for cats, and most pets being acquired after the illness has already started, potentially as a means of coping. Having pets has potential for psychological benefits in management of major depressive disorder, with current research supporting this along with various likely neurobiological effects [6,7].

CONCLUSION

In our study we found that people with depression were more often keeping pets as compared to the control group, which is in line with some earlier reports but not consistent everywhere [2,3,16]. Among them, cats were the most common pets kept, which is unusual because in existing studies, dogs usually come out on top [5]. Research so far is from Western settings, where social and economic conditions are different. Caring for dogs needs more resources and space compared to cats, and cultural and socioeconomic differences may affect both pet choice and mental health impact [28,29]. Another important point was that in majority of the cases; the pets were brought home only after the illness had already started. This suggests that pet ownership is likely occurring more as a way of getting support and coping, rather than acting as something preventive before the illness occurs [11,12].

Such findings are important since until now, sparse Indian data is available on this subject. Understanding these patterns may help in giving more well-rounded care and in improving the quality of life in depression. There is also need for multicentric work with larger cohorts to know the exact role of pets in mental health.

LIMITATIONS

Our study was cross-sectional in nature, so we cannot say with certainty about the cause-and-effect relationship between pets and depression. It was a single-centre hospital-based study, and the patients were selected by convenience sampling, so results cannot be generalised to the community. The strength or closeness of the bond with the pet was not studied, which may be an important factor considering existing research. Patients were not followed up, so the effects of pet ownership on course of depression could not be assessed.

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<u>Annexures</u>: Semi-structured questionnaire use to collect data

Age: **Sex:** **Gender:** **Education:** **Occupation:**

Questions:

1. Do you have pets at home?
2. Which pets do you have at home?
3. Since when do you have pets at home?
4. Since when do you have depression?
6. Do any family members have depression/any other mental illness?
7. Did you have pets before acquiring depression, or afterwards?
8. Benefits perceived after adopting pet.

CITATION OF THIS ARTICLE

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