

Influence of pets in controlling anxiety and stress among dental students¹Dr. Benita P., MDS, FICOI (USA), Prosthodontist and Oral Implantologist, Chennai, India²Dr. Balamurugan. R, MDS, Oral and Maxillofacial Surgeon, Chennai, India**Corresponding Author:** Dr. Balamurugan R., MDS, Oral and Maxillofacial Surgeon M RYA COSMO Foundation Hospital, Chennai, India**Type of Publication:** Original Research Article**Conflicts of Interest:** Nil**Abstract**

Purpose: The purpose of this study is to evaluate the influence of pet animals in controlling anxiety and stress among dental students.

Materials and methods: The study questionnaire was handed over to 100 respondents who were willing to participate in the study personally and collected immediately. The confidentiality of the respondents were ensured and maintained. The primary outcome measure was the STAI. It consists of two scales, the state anxiety inventory (S-anxiety) and the trait anxiety inventory (T-anxiety). Another questionnaire was formulated regarding the various stress relief methods. The obtained data were segregated, arranged and subjected to statistical analysis.

Result: Among the various methods of stress management music, spending quality time with friends and playing with pet animals showed a statistical significance of $P < 0.05$. Among the commonly available pet animals it has been found that there is no statistical difference between cat and birds. But there was a statistical difference between dog and fishes with $P < 0.05$.

Conclusion: In this particular study, we could achieve a significant relationship in interaction with pet animals which eventually relieved stress during the academic semester. However future research studies required to bring about a possible correlation between all pet animals

on relieving stress and controlling anxiety among dental students.

Introduction

In April 2016, Time Magazine published an issue titled "Animals and Your Health; the Power of Pets to Heal our Pain, Help Us Cope, and Improve Our Well-Being," illustrating the valuable effects that animals have on our health. The issue addressed several topics including emotional-support animals, how animals boost our health, help us connect, help ease posttraumatic stress disorder in suffering soldiers and veterans, and overall enhance our lives. From cats and dogs to pigs, birds, mice, rats, hedgehogs, iguanas, and goats, the National Service Animal Registry (NSAR) certifies a broad range of species as emotional-support animals (ESAs), many of which are used as alternative treatment for those with anxiety disorders, which according to the Anxiety and Depression Association of America affects roughly 40 million Americans.

Pet therapy as a therapeutic phenomenon has grown rapidly in recent decades with animal-assisted interventions being implemented across a range of healthcare environments, particularly those in mental health and wellbeing settings. Interventions in these settings have demonstrated outcomes such as enhanced socialisation, stress reduction and improvement in general

wellbeing, emotional dysfunction, and behavioural difficulties [1] whilst benefits have been observed across the clinical population lifespan [2,3]. From Autistic Spectrum Disorders [4,5] to severe mental illness [6-9], the literature increasingly indicates there is value in the facilitation of human-animal contact within interdisciplinary clinical practice. This therapeutic framework has resulted in the use of terms such as “pet therapy”, “animal-assisted therapy” and “animal-assisted activities”, referring to a reciprocal dynamic between humans and animals which addresses “physical and/or emotional needs” [10,11]. It is recognised that each may vary with regards to the duration of intervention, setting, target population and format [12].

Materials and Methods

The study questionnaire was handed over to 100 respondents who were willing to participate in the study personally and collected immediately and confidentiality of the respondents ensured and maintained. The primary outcome measure was the STAI [1,5]. It consists of two scales, the state anxiety inventory (Sanxiety) and the trait anxiety inventory (T-anxiety). Trait anxiety is relatively stable and refers to a person’s anxiety proneness whereas State anxiety is a person’s emotional response to a situation [8]. Another questionnaire was formulated regarding the various stress relief methods and the obtained data was evaluated and analysed using SPSS software.

Results

A total of 100 participants were included in the present study. The datas were segregated, evaluated and analysed with Kruskal-Wallis test and Post Hoc test using SPSS software. Among the various methods of stress management: music, spending quality time with friends and playing with pet animals were significant statistically with a mean difference of 0.22+/-0.62 (SD), 0.30+/-0.62

(SD), -3.30+/-0.62 (SD) with $P < 0.05$ (Table 1). Many pets help humans reduce stress levels. The type of pet depends on what kind of animals each person prefers. Among the commonly available pet animals, dogs and fishes showed a statistical significance with a mean difference of 0.15+/-2.08 (SD), 3.34+/-2.55 (SD) with $P < 0.05$ (Table 2).

Stress Relief	Mean Difference	Standard Deviation	P Value
Music	0.22	0.62	0.03
Friends	0.30	0.62	0.00
Sports	0.70	0.62	0.77
Alcohol	-0.42	0.62	1.23
Religious	-0.01	0.62	0.24
activity	-0.34	0.62	0.63
Yoga	-3.90	0.62	0.82
Meditation	-3.30	0.62	0.00
Pets			

Table 1: Methods of stress relief

Pets	Mean Difference	Standard Deviation	P Value
Dogs	0.15	2.08	0.00
Cat	8.99	2.01	0.55
Birds	0.71	4.87	1.00
Fish	3.34	2.55	0.04

Table 2: Distribution of pets and stress relief

Discussion

The current research examined the potential relationship between pet ownership and overall stress during a typical college semester. One significant aspect of the research was that dog owners who were also the primary caregivers of a dog spent more hours with a dog than dog owners who were not the primary caregiver. The time required for potential benefits of human-animal interaction to be observed may be minimal. Healthcare professionals who interacted with a dog for as little as five minutes showed reduced biological markers of stress, as measured by

salivary and serum cortisol levels; optimal measures were obtained 45 minutes after the interaction whereby cortisol readings were significantly lower than baseline [13].

Research utilising the student population to examine potential psychosocial, psychological and biological benefits is infrequent, and there are gaps in knowledge around effectiveness, type of interaction and dosage [14,15]. A recent study did find that students who attended animal-assisted therapy for an eight week course reported less homesickness and increased satisfaction and the dogs created a relaxing, soothing environment, however no measure of stress was reported [16,17].

A randomised control trial with students stressed by an examination period reported significant decreases in perceived stress after 15 min with a dog, although there were no changes in salivary cortisol levels [13]. Similarly, studies have found university students report lower levels of anxiety and loneliness following engagement with a therapy dog, along with improvements in the perception and accessibility of counselling services [5-7]. Interacting with a dog for seven to ten minutes led to significant reductions in state anxiety as measured by the STAI [1]. These findings are supported by the positive subjective feedback received at universities implementing pet therapy programmes [18,19].

Firstly, the research results do not tend to agree with past research findings. In the existing literature, the primary caregiver of the pet is the one who will experience the most stress relief [14,15]. Those who take care of their pet seem to enjoy the most benefits of pet ownership. In addition, past research tends to indicate that therapy interventions and on-campus counseling centers that utilize pet therapy tend to have better results than therapy that does not utilize pets [15].

Conclusion

In this particular study we could achieve a significant relationship between interaction with pet animals which eventually relieved stress during the academic semester. However future research studies would bring about a possible correlation between all pet animals on relieving stress and controlling anxiety among dental students.

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