Available online at www.sciencedirect.com

ScienceDirect

journal homepage: http://www.elsevier.com/locate/poamed

Review article

Feline-assisted therapy: Integrating contact with cats into treatment plans

Katarzyna Tomaszewska *, *Iga Bomert*, *Elżbieta Wilkiewicz-Wawro*

University of Warmia and Mazury in Olsztyn, Faculty of Animal Bioengineering, Department of Commodity Science and Animal Improvement, Poland

ARTICLE INFO

Article history:
Received 11 May 2016
Received in revised form
24 September 2016
Accepted 14 November 2016
Available online 18 March 2017

Keywords:
Feline-assisted therapy
Cats
Animal therapy

ABSTRACT

Introduction: Feline-assisted therapy is contact therapy involving cats. Some breeds of cats have innate characteristics that may be desirable in feline-assisted therapy. These include Ragdolls, Maine Coons and American Shorthairs. Cats have to meet certain requirements to participate in feline-assisted therapy: they should be adults aged 1 year or older, they should have a well-developed temperament, they should be vaccinated, sterilized and in good health.

Aim: The purpose of this paper was to discuss feline-assisted therapy (cat-assisted therapy) as a potentially beneficial form of treatment for various physical and psychological conditions in humans.

Material and methods: The paper was based on the available literature and publications.

Results and discussion: Contact with a cat can contribute to the treatment of many diseases, including depression (anxiety and fear), arthritis, Alzheimer's disease, AIDS, ADHD, diabetes, multiple sclerosis, cardiovascular disease, progressive muscular atrophy (muscular dystrophy), sclerosis, loss of sight and hearing, mental illness, osteoporosis and autism. Feline-assisted therapy may be conducted in nursing homes, prisons, hospices, hospitals, kindergartens and schools.

Conclusions: Feline-assisted therapy can be used in a variety of settings, and it is gaining increased popularity. Cat-assisted therapy is particularly recommended for patients who are unable to interact with large animals such as horses or are afraid of dogs.

* Correspondence to: University of Warmia and Mazury in Olsztyn, Faculty of Animal Bioengineering, Department of Commodity Science and Animal Improvement, Oczapowskiego 5, 10-719 Olsztyn, Poland. Tel.: +48 89 523 34 24; fax: +48 89 523 34 24.

E-mail addresses: katarzyna.kleczek@uwm.edu.pl (K. Tomaszewska), igabomert@o2.pl (I. Bomert), e.wilkiewicz-wawro@uwm.edu.pl (E. Wilkiewicz-Wawro).

http://dx.doi.org/10.1016/j.poamed.2016.11.011

1. Introduction

Animals have been used for therapeutic purposes for two millennia. In the ancient times, horseback riding and interactions with horses were regarded as effective remedies for various diseases and a form of exercise that stimulates the body. Animal-assisted therapy improves the patient's physical and psychological wellbeing.[1] Animals other than horses are also used for therapeutic purposes, including dogs, cats, donkeys, rabbits, hamsters, guinea pigs, birds, pet reptiles and amphibians.[2]

Interactions with animals deliver numerous health benefits:

- Pet owners have a lower risk of cardiovascular disease, lower blood pressure and lower blood cholesterol levels[3];
- Dog owners have a higher life expectancy after a heart attack[4];
- An increase in the levels of dopamine and endorphins, which are responsible for feelings of happiness and wellbeing, and a decrease in cortisol (stress hormone) levels is noted after 30 min of interaction with a dog[5];
- Children who frequently interact with cats are less likely to develop asthma and allergies in adulthood[6];
- Children who are visited by a therapy dog in hospital are less affected by post-operative pain[7];
- Patients with Alzheimer's disease have better appetite and gain weight when they watch fish in an aquarium during meals.[8]

Scientists examined the brain activity of people petting a dog or a cat. The results of EEG tests revealed an increase in the frequency of theta brain waves, a state that is associated with a sense of relief and relaxation. This was accompanied by a decrease in the frequency of alpha brain waves, which points to alleviation of stress and depression, and stimulation of immune function.[9]

Dogs and horses are most frequently involved in animal-assisted therapy. The popularity of cat-assisted therapy is also on the rise. Similarly to other therapeutic techniques involving animals, cat-assisted therapy is only an auxiliary method that supports specialized types of treatment. In line with international therapeutic guidelines, independent therapists should have the required knowledge and skills and should be suitably qualified to provide therapeutic services in a given area.[10,11] There are two types of feline-assisted therapy: stationary therapy, where the animal resides permanently in a therapeutic institution (indoor cat) and interacts with the patients and personnel, and visiting therapy, where the cat and a volunteer or a trained therapist visit a patient.[12]

The presence of cats, their purring and their soft and warm fur deliver both psychological and physical benefits for owners. Cats relieve stress, and even a short moment spent playing with a cat has a calming effect. Petting a cat lowers the risk of cardiovascular disease and asthma because cat fur generates negative ions which are highly beneficial for humans. Negative ions bring a sense of relief and relaxation, they improve patients' wellbeing and speed up recovery.[13]

2. Aim

This paper discusses feline-assisted therapy as a potentially beneficial treatment for many physical and psychological conditions in humans.

3. Material and methods

The paper was based on the available literature and publications discussing the role of cats in human therapy and education. A total of 24 references were used, including 11 original research papers, 6 books, 3 popular science articles and 4 Internet sources.

4. Results and discussion

Numerous diseases and conditions are effectively remedied by feline-assisted therapy, including depression (anxiety, fear), arthritis, Alzheimer's disease, AIDS, ADHD, diabetes, multiple sclerosis, cardiovascular diseases, muscular dystrophy, dementia, sight and hearing loss, mental disorders, osteoporosis and autism.[12,14,15] Patients undergoing feline-assisted therapy are encouraged to stroke a cat, brush its fur, perform cat back stretches and imitate the movements of a cat as physical exercise. Such activities are highly therapeutic in people suffering from autism, arthritis and muscular dystrophy. Cats help patients to come to terms with a terminal disease or to recover after a serious illness. Cat owners are less susceptible to colds, cough, insomnia, headaches and back pain, and require fewer medications.[12,16]

Certain cat breeds have features that are particularly desirable in feline-assisted therapy. They include Ragdolls, Maine Coons, Abyssinians, Persians, Scottish Folds and American Shorthairs. Despite the above, not all cats of a given breed can participate in feline-assisted therapy. Every cat has an individual temperament and character, and it can differ significantly from other representatives of the same breed. Non-pedigree cats can also be used for therapeutic purposes if they have the right temperament and behavior, are healthy and have been socialized with humans early in life. Preferably, therapy cats should be adult individuals, aged 1 year or older, with a well-developed temperament. A therapy cat has to be vaccinated and in good health. It should also be neutered/sterilized to eliminate any breaks in therapy caused by different stages of the animal's reproductive cycle.[12,16]

A therapy cat has to be trained to walk in a harness with a leash. A prospective feline therapist should also have a positive attitude to grooming, including combing in the direction of hair growth and against the grain, and powdering. Cats have to be socialized with humans. They should be accustomed to house guests, walks on a leash and riding in a car to the veterinarian and other locations. Animals that have been trained to walk on a leash will not cause problems during therapeutic sessions. A well trained and brought up cat can be a wonderful therapy animal for the owner and other people.[12,17]

Pet Partners (formerly Delta Society), an American non-profit organization for animal-assisted therapy, published the results of research examining the areas of life and health that are positively influenced by cats. Even people who do not like animals are able to overcome their reluctance when they see cats at play, and they begin to interact with felines. In residential care facilities, feline-assisted therapy improves relations between the patients as well as between the patients and personnel. Therapy cats improve the patients' cognitive skills and evoke positive emotions. The patients' sense of self-worth also improves because special skills or abilities are not required to attract the attention of an animal. By establishing visual and/or tactile contact with humans, cats reduce stress, tension, feelings of isolation and loneliness. Felines evoke spontaneous responses in humans, and they can catalyze positive relationships between people. Interactions with cats lower blood pressure, alleviate ventricular tachycardia and increase life expectancy after heart attack, pacemaker surgery and heart transplant surgery. Feline-assisted therapy also increases life expectancy in people with terminal cancer, improves sensory abilities in autistic children, increases attention span and improves vocabulary in sick children and persons suffering from Alzheimer's disease.[2,12] Autistic patients find it difficult to interact with therapists, which is why cats are often involved in therapeutic activities. Dogs are loud and direct, qualities that are not appreciated by autism sufferers, but soft, gentle and serene cats are ideal therapists who can relax the patient and even encourage them to develop a bond with the animal.[18]

Cat-assisted therapy sessions can be organized in nursing homes, penitentiaries, hospitals, hospices, schools and kindergartens (mainly for humanitarian education).

4.1. *Nursing homes*

Cats are most frequently encountered in nursing homes as permanent residents or visitors. Feline residents have unlimited access to all patients and locations in a home, which improves communication and has a stimulating effect on the patients. Visiting cats and their owners attend scheduled therapy sessions. Nursing homes provide care for patients with Alzheimer's disease, Parkinson's disease, rheumatic diseases and multiple sclerosis.[12]

Parkinson's disease is usually diagnosed in the elderly, but it can also affect people aged 30–40 years. It is an incurable disease which can lead to disability. The first observable symptom is muscle tremor in response to stress. Other symptoms include slow and awkward movement, rigidity affecting the muscles of the legs and torso, impairment or loss of voice, impaired coordination and balance. Advanced stages of disease lead to loss of facial expression, and patients are sometimes accused of being emotionally withdrawn. Patients may salivate excessively, and muscle tremor intensifies with time, which significantly impairs movement and leads to night sweats. People affected by Parkinson's disease often become depressed, they avoid social contact, feel alienated or even rejected, and are unable to go back to their normal life routine.[19] Cat-assisted therapy involves petting and grooming the animal, and these activities help patients control hand tremor. Patients are encouraged to make paper balls and throw them to the cat. Visitors and owners who bring a cat to a nursing home socialize with the residents. Patients perform logopedic exercises where a cat serves as a live model. Visits and activities should take place regularly, and patients should be both inspired and required to cooperate, for instance, by playing with a therapy cat.[12]

Rheumatism causes pain, limited mobility, reddening and swelling of joints. Feline-assisted therapy plays a similar role in rheumatism as it does in Parkinson's disease. In rheumatism, however, treatment is based mainly on drugs. Patients can benefit from direct contact with a cat. Activities such as stroking or brushing a cat can promote physical movement and joint mobility.[12]

Many residents of nursing homes struggle with Alzheimer's disease and require constant care and supervision. Patients have to be provided with a nurturing environment that contributes to a sense of emotional security and self-worth. Alzheimer's disease is caused by abnormal accumulation of protein fragments in the brain, which impairs brain activity and cognitive functions, leads to memory loss and frequent mood changes. Many patients experience problems with speech.[20] Patients thrive in a stable and friendly environment. Felines residing in a nursing home create a sense of stability and engage the patients in daily routines which may include cleaning the litter box or feeding and brushing the cat. The role of visiting cats is to reduce anxiety and behavioral disorders. A therapy session should last as long as the patient is able to focus on the animal. For residents who owned a pet in the past, cat-assisted therapy may bring back memories which they can share with the volunteer visitor or the cat's owner.[12]

Multiple sclerosis affects people at the age of 20–40 years. The disease is caused by inflammatory foci in the brain and spinal cord which damage nerve cells and fibers. Symptoms include chronic fatigue, impaired coordination and balance, muscle tension, limb paresis, involuntary eye movement, limb tremor and rigidity, double vision, impaired speech and loss of grip force.[21] During feline-assisted therapy, the patients play with a cat using tethered toys, feather teasers and paper balls they have made. Advanced activities include feeding and throwing toys from a sitting or recumbent position.[12]

4.2. *Penitentiaries*

Two types of cat-assisted therapy are practiced in Western penitentiaries. The first involves community work in animal shelters where prisoners take care of cats and dogs. In the second option, prisoners raise kittens. This approach relies on the concept of resocialization through responsibility, and prisoners are required to provide kittens with round-the-clock care, grooming and access to a veterinarian. Prisoners learn to assume responsibility for a weaker creature and improve their communication with inmates.[12,22]

4.3. *Hospices and hospitals*

Patients perform simple grooming activities, which prevents them from becoming apathetic and motivates them to fight the disease. The visitor provides psychological support by talking and, above all, listening to the patient. The cat, its caretaker and the patient form a bond as part of a small

support group. Terminally ill patients who are provided with cat-assisted therapy find it easier to come to terms with the disease and take care of significant matters.[12] A research study revealed that cat-assisted therapy for cancer patients has a positive impact on treatment, increases patient mobility, relaxes patients and motivates them to improve their health and overall wellbeing.[23] Before visiting a hospital or hospice, the cat should be thoroughly combed, and breeds with long and semi-long hair should not be powdered. Blankets that are brought in with the cat should be washed in a hypoallergenic detergent. If the patient agrees to have the cat on his or her bed, the animal should be placed on the blanket brought by the owner. A disposable bed pad should be used for chemotherapy patients.[12]

4.4. *Schools and kindergartens*

During feline-assisted therapy, students and kindergarten children imitate animals and perform various activities individually or in groups. Animal-assisted therapy provides children with vital life skills, helps them overcome their fears, gives motivation and builds a sense of self. Therapists discuss variety in the feline world (wild cats vs. domestic cats), they explain concepts that describe the animals' size, promote active interactions between children and the cat, and help children overcome their fear of animals. During a therapeutic session, children assemble jigsaw puzzles with the picture of the therapy cat, they sort pictures into groups representing wild and domestic cats, or compare cats with different types and length of hair. Other activities include touching, stroking and combing the cat's hair, naming different parts of the cat's body, walking with the cat, imitating the movements and sounds made by the cat, feeding the animal, and relaxing with the cat.[14] Feline-assisted therapy reduces stress and anxiety, improves communication between children and enhances learning. Children take great delight in being able to touch and play with a cat.[24]

5. Conclusions

Feline-assisted therapy can be used in a variety of settings, and it is gaining increased popularity. Cat-assisted therapy is particularly recommended for patients who are unable to interact with large animals such as horses or are afraid of dogs.

Conflict of interest

None declared.

REFERENCES

1. Filozof J. *Dogoterapia? Co to jest?* [What is Dog-Assisted Therapy?]. Jarosław: Polskie Stowarzyszenie na Rzecz Osób Upośledzonych Umysłowo; 2004 [in Polish].
2. *Pet Partners*. https://petpartners.org. Accessed: 12.03.2016.
3. Anderson WP, Reid CM, Jennings GL. Pet ownership and risk factors for cardiovascular disease. *Med J Aust*. 1992;157 (5):298–301.
4. Friedmann E, Thomas SA. Pet ownership, social support and one-year survival among post-mycardial infarction patients in the cardiac arrhythmia suppression trial (CAST). *Am J Cardiol*. 1995;76(17):1213–1217.
5. Odendaal J. Animal-assisted therapy – magic or medicine? *J Psychosom Res*. 2000;49(4):275–280.
6. De Meer G, Toelle B, Ng K, Tovey E, Marks G. Presence and timing of cat ownership by age 18 and the effect on atopy and asthma at age 28. *J Allergy Clin Immunol*. 2004;113(3):433–438.
7. Sobo E, Eng B, Kassity-Krich N. Canine visitation therapy pilot data on decreases in child pain perception. *J Holist Nurs*. 2006;24(1):51–57.
8. Edwards N, Beck AM. Animal-assisted therapy and nutrition in Alzheimer's disease. *West J Nurs Res*. 2002;24(6):697–712.
9. Kollus B. *The Power of Petting*. The Cat Site; 2012 Available at: *http://www.thecatsite.com/a/the-power-of-petting*. Accessed: 21.04.2016.
10. IAHAIO. *White Paper. The IAHAIO Definitions for Animal-Assisted Intervention and Animal-Assisted Activity and Guidelines for Wellness of Animals Involved*. 2014. Available at: http://iahaio.org/new/fileuploads/4163IAHAIO%20WHITE%20PAPER-%20FINAL%20-%20NOV%2024-2014.pdf. Accessed: 20.08.2016.
11. Potocka A, Grzegorzewski W, Kowalski I. [Animal-assisted therapy. Methods, directions and limitations of animal engagement in the processes of rehabilitation and treatment]. *Szkice Humanistyczne*. 2015;1–2(37):265–273 [in Polish].
12. Bekasiewicz N. *[Can animals heal? Therapies involving animals support the rehabilitation of people with disabilities]*. Warszawa: Fundacja Pomocy Osobom Niepełnosprawnym Przyjaciel (FPON); 2008 [in Polish].
13. Bernstein P. The human–cat relationship. In: Rochlitz I, ed. *The Welfare of Cats. Dordrecht*. the Netherlands: Springer; 2007 :47–89.
14. Meadows G, Flint E. *The Cat Owner's Handbook*. Barnes and Noble Books; 2001.
15. Franczyk A, Krajewska K, Skorupa J. *Animaloterapia*. [Animal Therapy]. Karków: Oficyna Wydawnicza „Impuls''; 2007 [in Polish].
16. Skorek E. *Terapia pedagogiczna*. [Pedagogical Therapy]. Kraków: Oficyna Wydawnicza ‚Impuls'; 2005 [in Polish].
17. *Love on a Leash*. http://www.loveonaleash.org. Accessed: 20.08.2016.
18. Chmiel K, Kubińska Z, Derewiecki T. [Animal-assisted therapies in different types of disabilities]. *Probl Hig Epidemiol*. 2014;95(3):591–595 [in Polish].
19. *Parkinson's Disease Foundation*. http://www.pdf.org/en/about_pd. Accessed: 12.04.2016.
20. Förstl H, Kurz A. Clinical features of Alzheimer's disease. *Eur Arch Psychiatry Clin Neurosci*. 1999;249(6):288–290.
21. National Multiple Sclerosis Society. MS Symptoms. http://www.nationalmssociety.org/Symptoms-Diagnosis/MS-Symptoms. Accessed: 12.04.2016
22. Terechowicz-Orach A. [Cat's world behind the bars]. *Kocie Sprawy*. 2014;02:26–27 [in Polish].
23. Sawaryn D. [Therapy cats in the rehabilitation of oncological patients]. *Med Rodz*. 2013;4:123–128 [in Polish].
24. Koziorowska G. [Nagini – the greatest therapist]. *Kocie Sprawy*. 2014;02:40–42 [in Polish].