

Application of Animal Assisted Therapy: A Review

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Abstract: Animals have traits that can be loved and fulfill a person's feeling such as their friendly, kind, patient, truthful, devoted and loyal are among the commonest one. Animals seem to provide such a positive influence on people, especially children that it appears universally beneficial. Thus, animals have a great role in human day to day life as well as human wellbeing. Animal-assisted therapies have historically been beneficial to human health, while the advantages to the humans in these relationships may be obvious, the benefits to the animals are by no means always self-evident. animal assisted therapy is as an intentional and therapeutic activity, whereby the animal's role is integral in assisting with mental health, speech, occupational therapy or physical therapy goals and augments cognitive, physical, social and/or emotional well-being. The benefits of animals can be included under physical benefits, developmental benefits, psychological benefits and educational benefits. Various animals were used in animal assisted therapy but the most common ones are the dog, cat, horse and dolphin. Though the animals are used to benefit humans, they also must be able to pursue their own needs interests in avoiding pain, fear, distress, or physical harm and injury. Thus, the application, use, welfare rights and potential challenges in the practice of Animal Assisted Therapy.

Key words: Animal-Assisted Therapy • Cat • Dog • Dolphin • Horse • Psychotherapy • Welfare

INTRODUCTION

Animals are patient, honest, devoted, affectionate and dependable. These traits fulfill a person's vital need to be loved and to feel valuable [1, 2]. Animals seem to provide such a positive influence on people, especially children, that it appears that the effects are universally beneficial [3, 4]. Historical accounts of animals contributing to the wellbeing of people date back to the 1600s, including John Locke's discussion of the use of small animals to help cultivate empathy and responsibility in children [5, 6]. Many other accounts beyond Locke's descriptions are recorded in the literature. In 1792, for example, a Quaker retreat in England described using farm animals to treat mental health patients in an effort to reduce the need for isolation and restraints [7, 8].

Animal assisted therapy (AAT) is as an intentional and therapeutic activity, whereby the animal's role is integral in assisting with mental health, speech, occupational therapy or physical therapy goals and augments cognitive, physical, social and/or emotional

well-being. Their criteria for AAT include the following: the animal must meet specific criteria that fit the therapeutic goals; the animal is considered a necessary part of the treatment; therapy is directed by a qualified professional or practitioner; therapeutic intentions include physical, social, emotional, or cognitive gains; therapy can occur in group or individual sessions and all treatment must be documented and evaluated [2, 4, 9].

The emergence of psychotropic drugs on the medical scene, however, contribute for the disappearance of the involvement of animals on human health and wellbeing [10, 11] until the 1940s, when James Bossard [5] noted the positive physical and emotional effects of owning a dog. In the 1960s, Boris Levinson coined the term pet therapist to refer to his dog, Jingles, who participated in his therapeutic work. This term marked the emergence of interest by researchers and practitioners in the psychological effects of human and animal interaction and highlighted the critical shift to regard animals as a partner in therapy rather than a tool to be exploited [12, 13].

A reoccurring theme in animal-assisted therapy is that of the human-animal bond. There is not an accepted universal definition of the human-animal bond among scholars [4, 14, 15]. Although no absolute definition is agreed upon, one is often utilized in the literature on the subject. The American Veterinary Medical Association's Committee on the human-animal bond states that it is defined by A mutually beneficial and dynamic relationship between people and other animals that is influenced by behaviors that are essential to the health and wellbeing of both. This includes but is not limited to, emotional, psychological and physical interactions of people, other animals and the environment [1, 16, 17].

According to the research conducted by Thigpen, Ellis and Smith, animals have different roles in the life of human beings. The benefits of animals can be included under physical benefits, developmental benefits, psychological benefits and educational benefits. Research on the physical benefits of animals shows that being their presence and interacting with them lowers blood pressure, reduces stress reactions, reduces heart rate, reduces levels of anxiety and even lowers triglyceride levels [18, 19].

The developmental benefits of animals have been shown to contribute to helping children learn how to trust others, be compassionate and take responsibility for themselves and their belongings. In addition, the psychological benefits of animals can be seen on pet owners, as their effects have been shown to be correlated with enhancement of socialization and an optimistic attitude towards oneself. Furthermore, the role of animals in educational activities has been and is currently being used to develop reading and communication skills in school settings [1, 11, 17]. So, this paper is to enlighten the application and the challenge of animal-assisted therapy.

Overview of Therapeutic Approaches to Involving Animals: Animals have always been important in people's lives [3, 20], we may see them from a mystical-religious viewpoint - as gods, from an economic and utilitarian view - to be used or as our equals. In many countries, animals have rights including the right to have their needs respected and are seen as active participants in their relationship with us, where there can be mutual benefits. The history of mankind has always been intimately linked to the history of animals. As far back as ancient Greece, it was recognized that contact with animals helps to improve the emotional and physical

health of people [16, 21]. Despite this early awareness, animals have only been used for therapeutic purposes since the end of the 18th century [4, 10, 22].

Various scientific discoveries over the years have enabled the development of programs where animals are partners with us - in special education, healing processes, social support mechanisms and residential care. Various programs in which animal assistance was used, show that animals can have a significant impact on positive human change as they can "awaken social and benevolent feeling" [12, 23, 24].

Therapy with Dogs and Cats: The dog was an early part of man's life, becoming the first domesticated animal. Well before psychologists and counselors, a broad range of therapists integrated dogs into their work to help improve client skills and abilities. Human-dog partnerships traditionally provided a service for clients with disabilities, such as dogs assisting people with visual impairments or working with autistic children [6, 25, 26]. Treatment interventions included providing safety and offering independence to the client. Dogs are now one of the primary animals involved in AAT and psychotherapy. Animal-assisted therapy of dogs assists physical therapists "in meeting goals important to a person's recovery". With the dog's help, the patients reach higher goals than those who go without the help of a dog. The dog's help in areas of fine motor control and also in gaining motion in their limbs [18, 24, 27].

General characteristics of therapy dogs are that they must be "well-tempered and well socialized." They must be able to handle numerous situations without ever losing their "cool." Most importantly, these therapy dogs must love to cheer others up. The dogs must be very people-oriented. If the dog does not enjoy being around and pleasing people, then it will be extremely difficult for anyone, the dog included, to benefit. The temperament of a therapy dog is also very important. A good therapy dog is able to relax in all sorts of circumstances. When the dogs get uptight, so do the people and no one benefits. When the dog is relaxed, then the elders will also relax and everyone will enjoy the visit that much more [5, 8, 28].

Cats are another species sometimes integrated into psychotherapy. Unlike horses or dolphins and with little client effort, cats can offer friendship by sitting in a client's lap. Disadvantages, as described by Chandler [29] included: a cat's tendency towards introversion; a possible need for more built-in breaks for the animal; less trainability than some other commonly used animals,

posing possible problematic behaviors; a need for constant access to a litter box; and a high incidence of human allergies to cats.

Therapy with Dolphins: Dolphin-assisted therapy (DAT) has become a popular therapeutic approach to work with cognitively and physically challenged individuals [30]. According to the study, dolphins were included in the therapy to assist with skill development in areas such as communication, fine and gross motor skills and sensory integration. Besides, their intelligence and the stress-reducing capabilities in water are some of advantages noted when working with dolphins. Previous studies revealed that DAT is a cost-effective approach since because it often demonstrated client success in achieving their treatment goals in a shorter period of time compared to more traditional therapies [11, 30, 31].

DAT has been targeted for children and adults of all ages, all genders and all ethnicities [17]. Supporters and therapists of DAT claim it is effective in treating people with clinical disorders as well as conditions including autism, epilepsy, Down syndrome, dyslexia, Tourette syndrome, cancer and AIDS [31, 32]. Other benefits of DAT includes increased stimulation, better memory, increased motor skills, accelerated healing and an increase in a person's well-being as well as reduced stress, pain and depression, increasing relaxation, enhancing the production of infection fighting T cells, endorphins and hormones and enhancing the recovery process [30, 31].

Generally, DAT increases attention span, motivation and language skills more rapidly and cost effectively than other more conventional therapies and the treatment effects are maintained over an extended period of time. There have been numerous theories voiced regarding how dolphin-assisted therapy works. The three most prominent theories for DAT are echolocation, dolphins being attracted to people with disabilities and overall joy and relaxation [14, 24, 31].

Other theories include simply being in the water and increasing attention in individuals with autism. Other proponents of DAT have claimed that ultrasound emitted by dolphins through echolocation clicks has a mechanical effect on human endocrine and neural systems. These effects enhance healing by changing the individual's body tissue and cell structure. This is one of the most popular theories behind DAT; however, the evidence backing these claims appears to be purely anecdotal [31, 32].

Other theorists propose that dolphins are sensitive to people with disabilities and that they seek to help them by paying extra attention to them through playful expressions of concern. This has been termed "secret language" by some DAT therapists. Dolphins could communicate acoustically with body movements and are attended to the body movements of others. This appeared to be especially true in the case of children with autism. It seemed to DAT's supporters that the dolphins understood their thoughts and actions [16, 32].

Therapy with Horses: Hippotherapy refers to an organized and structured approach that emerged in the 1960s to integrate horses into physical rehabilitation therapy [29, 33]. Altschiller [34], described the therapy as a method of utilizing horse movement to compliment physical, occupational and speech-language therapy sessions, with therapy not limited to one type of practitioner; for instance, a child with a physical disability may practice gross motor coordination skills by learning to balance in a saddle or may develop expressive language skills through commands and verbal interaction with the horse and therapist [12, 24, 35].

Equine-Facilitated Psychotherapy (EFP) is a more current approach utilizing horses in therapy. EFP is derived from AAT and can only be conducted by an accredited mental health professional specifically trained in utilizing horses as part of their counseling intervention [35, 36]. Chandler and Altschiller [33, 34] deduced that horses selected for therapy should be "well trained, calm and friendly toward people and other horses. A therapy horse must not startle easily to noises or unfamiliar objects". There are a number of strengths and challenges of involving horses in therapy. For instance, the novelty of the horse can incite interest and involvement for many clients who may otherwise lack the motivation to participate in therapy. Besides, the size and power of a horse can promote self-confidence when clients learn appropriate interaction and the fact horses can be ridden may assist the counselor in creating novel and interesting tasks [11, 35, 36].

Application and Use of Animal-assisted Therapy

Animals and Physical Health: AAT and activity have been found to have effects on the general health of those who take part in these activities. Beck and Katcher [3] asserted that there is evidence of significant health benefits that improve the morale, self-esteem and

physiological status of those who have contact with animals. AAT provides contact with animals for many people that were able to achieve due to their health status or lack of a pet [3, 25].

Indeed, non-traditional therapy methods provided health benefits for people, but some animals have been trained to help those with disabilities gain greater independence in their daily activities [9, 16]. Pets have also been found to lighten the environment of a medical facility, encourage patients to participate in rehabilitation, reduce depression and loneliness and provide joy for patients, staff and visiting family and friends [1, 15].

Health of the Elderly: The world we live in has experienced tremendous growth in the population of persons who are 65 and older. Aging is a natural, dynamic interactive process that one day we will all have to go through. The way in which we age is affected by both internal and external factors. Having an animal around greatly improves the quality of life for elders who usually live alone and who are not able to get out as much as they used to [7, 9].

Numerous studies have recorded evidence of the effects of animals on the physical health of elders. Epidemiologic studies suggest pet owners may acquire physical benefits, such as improved blood pressure, lesser risk of hypertension and greater physical activity [37]. In contrast to elders with no pets, elders who owned a pet had significantly lower the increases in systolic and diastolic blood pressure in response to the stress [3, 15].

Pain Management in Children: AAT can be an effective method for reducing pain in children. Pain reduction was four times greater in those children undergoing AAT [38]. The impact on pain reduction may be explained by the understanding of the role of pets in modulating a psycho-neuro-endocrine response [3, 39]. Exposure to a pet or other friendly animal induces the release of endorphins which induce a feeling of well-being and lymphocytes, which increase the immune response. Physiologic indicators, such as reduced heart rate, reduced blood pressure, reduced respiratory rate, increased peripheral skin temperature and papillary constriction are indicative of decreased sympathetic nervous system activity and the activation of the parasympathetic nervous system indicative of the relaxation response [11, 25, 40].

Animals and Psychotherapy: According to different research findings, AAT has positive effects on physical health problems such as high blood pressure and also effects on mental health problems. Moreover, companion animals have a positive impact on the mental health patterns, social interaction as well as functional health status. The mere presence of an animal, its spontaneous behaviors and its availability for interaction may provide opportunities and confer benefits that would be impossible, or much harder to obtain in its absence [3, 10, 25].

Autism Spectrum Disorder: AAT is an effective intervention to use once people with autism spectrum disorder enter into therapy because the animal becomes a transitional object in which they form a bond [13, 26]. According to different studies, the relationship with the animal can help the client develop more relationships with people in their life. Autistic clients tend more to stay on task when in the presence of a therapy animal and talk less about topics that are unrelated to the clinical conversation and instead, talk more about the animal. Autistic children especially display a higher level of activity focused on their environment with the presence of an animal [21, 39, 41].

Dementia: Dementia is a major cause of disability among people over 65 years of age and the incidence is increasing [42]. Currently, there are no treatments that can cure or completely eliminate the behavioral and psychological symptoms of dementia (BPSD), which include aggression, agitation, depression, anorexia and decreased physical activity [43]. Different researches have shown that AAT has been helpful in moderating some of the symptoms associated with dementia. AAT has been shown to increase social behavior, decrease behavior problems including agitation, decrease depressive symptoms and decrease impairment of activities of daily living [22, 36, 44, 45].

Social Skills: According to researchers, animal-assisted therapy encourages a client's social interaction with peers because of the non-judgmental nature of animal therapy [3, 7]. It appears that interactions in animal-assisted therapy settings are encouraged in one of three ways: the animal offers a unique kind of unconditional social support for a client with emotional disorders by acting as the client's friend, the animal's spontaneous enthusiasm for social interaction may provide a stimulus for the

child's own social behavior, or the animal may increase positive initiation interactions with the therapist while both are interacting with the animal [46]. This increased level of social interactions can help the client learn new social skills as they relate to the animal. By the same token, these social skills can be related to other people in their world [11, 47].

Anxiety: Anxiety is a feeling of worry, nervousness, or unease, typically about an imminent event or something with an uncertain outcome and is often accompanied by physical symptoms [1, 10]. A study by Barker and Dawson [48] into the effects of animal-assisted therapy on the anxiety ratings of hospitalized psychiatric patients looked at patients that were referred for therapeutic recreation sessions. The patients were administered an anxiety rating scale before and after participating in two types of sessions; one with animals present and one without [22].

According to different research findings, there are significant differences in the ratings of anxiety before the AAT session and after the session. Patients diagnosed with psychotic disorders, mood disorders and other disorders showed significantly lower anxiety ratings after the animal-assisted session, while the only patients that showed comparably low anxiety ratings after the traditional session were the patients with mood disorders. This suggests that AAT techniques can be useful in reducing anxiety in all clients regardless of their diagnoses [10, 22, 48].

Welfare and Rights of Animals in Animal-assisted Therapy: Throughout history, people have used animals whether for food, sport, adornment, labor, or companionship as a means of satisfying human needs and interests. However, animals also have interests in avoiding pain, fear, distress, or physical harm and in pursuing their own needs [33, 34]. Relations between human and nonhuman animals become morally problematical where there is a conflict of interests between the two: where the human use of the animal either causes the latter pain, fear or harm or it in some way thwarts or prevents the animal from satisfying its own needs [5, 22, 45].

Although different kinds of welfare problems attend the specific roles and activities performed by different classes of therapy or assistance animals, there are some basic welfare considerations that tend to apply to all of

them regardless of how they are used. Most authorities accept that these basic considerations are reasonably well summarized by the following "five freedoms,".

- Freedom from thirst, hunger and malnutrition by ready access to fresh water and a diet to maintain full health and vigor.
- Freedom from discomfort by providing a suitable environment, including shelter and a comfortable resting area.
- Freedom from pain, injury and disease by prevention and/or rapid diagnosis and treatment.
- Freedom from fear and distress by ensuring conditions that avoid mental suffering.
- Freedom to express most normal behavior by providing sufficient space, proper facilities and company of the animal's own kind [5, 49].

Issues of Animal Welfare in Animal-assisted Therapy

Basic Needs: An animal feels more secure when his basic needs are met. According to Cowman, basic needs are defined as follows: a proper diet and water; a suitable place to live; an opportunity to be housed, or apart from, other animals; an opportunity to express normal behaviors; and protection and treatment of illness and injury [50]. Besides, basic needs are described as attending to both the physical and mental well-being of an animal. Responsibilities comprise an environment which must suit the animal; interaction between the animal and students must be controlled and supervised; the animal must have the opportunity to rest; knowledge that the breeding of animals is not appropriate; and the animal's well-being must be attended to no matter where they are housed [49].

Environment: There are considerations associated with the environment in which the animal is working, including noise level, excessive feeding by clients, level of risk for injury, adaptability of the animal to the setting and the type of training the animal must endure fitting into the environment [33]. The environment can be as important as the actual handling when considering animal welfare. Altschiller [34] offered several considerations, such as choosing the size of the animal to fit the space, providing an exercise area and creating a place for the animal to safely retreat when feeling stressed or uncomfortable. This is particularly important for animals involved in crisis situations where the level of chaos and the state of the environment may be difficult to control [5, 34, 45].

Length of Workday: Consideration must be given to the length of time the animal is expected to work. An animal belonging to a therapist may stay in the office all day, some co-counselors may travel extensively if they are a part of a mobile operation, or animals on a ranch may be able to come and go at their leisure. No matter the situation, without appropriate breaks an animal that is expected to interact with clients all day may become exhausted and stressed. Depending on the animal, Altschiller [34] suggested a work session should last no more than one hour at a time, with sizeable downtime away from working which includes exercise, play and rest.

Aging and Retirement Issues: Further welfare challenges arise when therapy and assistance animals begin to age. Many dogs, for instance, display clear evidence of progressive cognitive as well as physical impairment associated with aging, including disorientation, failure to recognize familiar individuals, restlessness and house soiling. Naturally, under these circumstances, an animal's schedule for therapeutic involvement will need to be curtailed. This may cause some disruption and adjustment for both the clinician and the animal, although careful planning may help to mitigate this [25, 33].

The Problem of Stress: Stress is the body's natural physiological response to environmental stressors. The processes underlying this stress response are now reasonably well understood: when humans and other animals are subjected to unpleasant or painful stimuli, their bodies respond by secreting a group of hormones from the hypothalamus and the pituitary and adrenal (HPA) glands [29, 34].

Behavioral indicators of stress vary greatly between species and in many, they have never been studied or described in any detail. In the dog, studies and anecdotal observations suggest that sweating paws, salivating, panting, muscle tension, restlessness, body shaking, paw lifting, yawning, aggression and hypervigilance, may all be behavioral manifestations of stress [51], whereas in cats, alert inactivity, tense muscle tone, crouching posture and pupil dilation may be indicative [45].

There are many potential sources of chronic stress in the lives of assistance and therapy animals. Trainers, practitioners and end-users of these animals should be educated to recognize the warning signs and act accordingly. As part of routine veterinary visits and physical examinations, HPA activity should also be monitored regularly [51].

Potential Challenges of Animal Assisted Therapy

Physical Risk: An animal is never completely predictable even if it is well trained. Something as simple as a cat scratching a child or a dog knocking the client over during playtime can jeopardize the therapeutic relationship. Serious injuries could occur in any environment, such as a client or counselor breaking an ankle in a gopher hole, or a client tripping over an animal in an office. Obvious potential for liability issues are plentiful and therefore risk management is a key feature when working with animals [33, 45].

Cultural Diversity and Animal-Assisted Therapy: In the case of AAT, the counselor and client may not share similar values and belief systems towards animals [52]. The client's worldview reflects and affects their interaction with and understanding of, animals and influence how they regard an animal as co-therapist [34]. A client's physical and emotional response to a particular species of animal as being based on "previous direct and indirect experiences with as well as their beliefs, desires and fears about specific species". It is, therefore, possible that the counselor and client worldview could differ enough that an animal's presence could hinder, rather than facilitate AAT [11, 22].

Human Health: The potential for disease must be addressed in both offices as well as outdoor settings by good sanitation. Animal inoculations and parasite control must be current and clients must also be screened for potential allergies or sensitivities and animals can pass on zoonotic diseases [29, 33, 34]. Odendaal [53] recommended working with dogs and cats older than 9 months as puppies and kittens are more likely to pass on certain parasites to humans. Odendaal and colleagues listed other diseases, such as acquiring ringworm or salmonella from cats, birds and horses. They noted it is somewhat rare for the transmission of diseases to occur, however consideration of the client's immune system is critical [11, 53].

CONCLUSION AND RECOMMENDATIONS

Animal-assisted therapies are modalities that offer an integrative approach to enhance the treatment of various health and mental concerns. The concept of using trained and socialized animals to assist people with disabilities, or as therapeutic adjuncts is slowly gaining recognition

by clinicians and clients. The use of animals for animal-assisted therapy imposes a unique set of stress on them that has only recently begun to be acknowledged. Animal-assisted therapies for people with or at risk for developing mental disorders are a complementary and integrative therapeutic approach with limited, but growing scientific support. The involvement of animals in therapy has great potential as well as challenges, all of which must be considered when contemplating AAT as an adjunct to therapy. The technology is somewhat in use in Africa but is not practiced in Ethiopia. Therefore, the use of animals as co-therapist in the treatment of various health and mental cases should be considered further by clinicians for the betterment in therapy. Besides, the challenges in the practice of AAT and the welfare of the animals should be carefully studied and solutions set forth. Finally, AAT should be introduced to most hospital and further researches should be done on its possible application on human medicine.

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