

Natural healers: a review of animal assisted therapy and activities as complementary treatment for chronic conditions

Reiley Reed¹

Lilian Ferrer²

Natalia Villegas³

The primary objective of this review is to synthesize the existing literature on the use of animal-assisted therapy and activity (AAT/A) as complementary treatment among people living with chronic disease and to discuss the possible application of this practice among children living with HIV. Relevant databases were searched between March 10 and April 11, 2011, using the words: animal assisted therapy or treatment and chronic conditions or diseases. Thirty-one articles were found and 18 followed the inclusion and exclusion criteria. Research suggests that AAT/A is effective for different patient profiles, particularly children. Interaction with dogs has been found to increase positive behaviors, such as sensitivity and focus, in children with social disabilities. Decreased levels of pain have also been reported among child patients as a result of AAT/A. More research should be done in the area of children living with chronic diseases that require strict adherence to treatment, such as HIV, and on AAT/A's prospective use as an educational tool to teach children about the importance of self-care for their medical conditions.

Descriptors: Animal Assisted Therapy; Complementary Therapies; Chronic Disease.

¹ BA, Research Assistant, Escuela de Enfermería, Pontificia Universidad Católica de Chile, Chile.

² PhD, Associate Professor, Escuela de Enfermería, Pontificia Universidad Católica de Chile, Chile.

³ Doctoral Student, School of Nursing and Health Studies, University of Miami, USA.

Corresponding Author:

Reiley D. Reed
Pontificia Universidad Católica de Chile. Escuela de Enfermería
Av. Vicuña Mackenna 4860, Macul
Santiago, Chile
E-mail: rreeda@uc.cl

Curadores naturais: uma revisão da terapia e atividades assistidas por animais como tratamento complementar de doenças crônicas

O objetivo desta revisão é descrever a literatura existente sobre o uso de terapia e atividades assistidas por animais (AAT/A) como terapia adjuvante em pessoas vivendo com doenças crônicas e discutir a possível aplicação desta prática em crianças que vivem com HIV. A informação foi buscada em bancos de dados entre 10 de março e 11 de abril de 2011, usando as palavras: terapia assistida por animais ou tratamento e condições crônicas ou doenças. Trinta e um artigos foram encontrados e 18 seguiram os critérios de inclusão e exclusão. A pesquisa sugere que AAT/A é eficaz para pacientes com diferentes perfis, especialmente para crianças. Descobriu-se que a interação com cães incrementa comportamentos positivos como aumento da sensibilidade e atenção nas crianças com deficiência social. A redução nos níveis de dor também foi relatada em crianças como resultado da AAT/A. Mais pesquisas devem ser feitas na área de crianças que vivem com doenças crônicas que exigem adesão rigorosa ao tratamento, tais como HIV, e o uso prospectivo da AAT/A como uma ferramenta educacional para ensinar às crianças sobre a importância do autocuidado para suas condições médicas.

Curadores naturales: una revisión de la terapia y actividades asistidas por animales como tratamiento complementar de enfermedades crónicas

El objetivo de esta revisión fue describir la literatura existente sobre el uso de terapia y actividades asistidas por animales (AAT/A), como terapia coadyuvante en personas viviendo con enfermedades crónicas, y discutir la posible aplicación de esa práctica en niños que viven con SIDA. La información fue buscada en bancos de datos entre 10 de marzo y 11 de abril de 2011, usando las palabras: terapia asistida por animales o tratamiento y condiciones crónicas o enfermedades. Treinta y uno artículos fueron encontrados y 18 siguieron los criterios de inclusión y exclusión. La pesquisa sugiere que AAT/A es eficaz para pacientes con diferentes perfiles, especialmente para niños. Se descubrió que la interacción con perros incrementa comportamientos positivos como aumento de la sensibilidad y atención en los niños con deficiencia social. La reducción en los niveles de dolor también fue relatada en niños como resultado de la AAT/A. Más investigaciones deben ser hechas en el área de niños que viven con enfermedades crónicas que exigen adhesión rigurosa al tratamiento, tales como SIDA, y el uso prospectivo de la AAT/A como herramienta educacional para enseñar los niños sobre la importancia del autocuidado para sus condiciones médicas.

Introduction

Animals are known for their nurturing behavior, which is why they often play important roles in humans' lives as pets or working as trained companion animals. In recent years, animals' ability to function as more than pets and work as healers of their human guardians has been demonstrated in research, though this literature is limited. While animal assisted activity (AAA) and animal assisted therapy (AAT) are not common types of complementary treatments used among people living with chronic diseases, it has been researched and deemed valuable in various settings, such as hospital, therapeutic, educational and assisted living environments, particularly among children and the elderly⁽¹⁻³⁾. This is not surprising,

as interaction with animals has noteworthy effects on children's social development⁽⁴⁻⁵⁾. Furthermore, AAT have been demonstrated to help reduce fear and lower systolic blood pressure in hospitalized children more so than human interaction⁽⁶⁾, demonstrating its potential physiological effects.

According to the Delta Society, an organization that supports the human-animal health connection, there are two types of programs which offer facilitated interaction with trained animals in a healthcare setting. Though they both include animal visitation, there are some important differences. Animal assisted therapy (AAT) is a type of therapy with specific goals and treatment plans for the

patients, according to the patient profile. In AAT, patient progress is recorded, and visits and their duration are scheduled based on the patient's needs. Animal assisted activity (AAA) is a more casual activity where there is no fixed schedule, activities are spontaneous, there are no session goals and patient progress is not documented. Both AAA and AAT programs have been demonstrated successful in various settings⁽⁷⁾.

While there is research that establishes AAA/T (Animal Assisted Activity and Therapy) as effective with people of all ages, it is scarce. Most of the research examining animal assisted therapy and activities has been conducted among adults, particularly elderly people⁽⁸⁻¹¹⁾. However, there is literature demonstrating the various positive effects of interaction with animals in healthcare settings among children with diverse profiles. For example, equestrian therapy has been demonstrated successful in increasing positive social behaviors, such as sensitivity, concentration and social motivation among children living with Autism Spectrum disorder⁽¹²⁾. Another demonstration of the positive effects of animal interaction is that the mere presence of an animal in a pediatric dental clinic was shown to reduce the patients' initial anxiety among the children in the waiting room⁽¹³⁾. Finally, the presence of a therapy animal has been demonstrated to reduce stress and facilitate acceptance among hospitalized pediatric cancer patients⁽¹⁴⁾.

However, despite the research, there are few existing AAA/T programs, though they also have a potentially important role among professionals in health care. The primary objective of this review is to synthesize the existing literature on the use of animal-assisted therapy (AAT) as a complementary treatment among people living with chronic disease and to discuss the possible application of this practice among children living with HIV.

Methods

The following steps were taken for the completion of this review: animal assisted therapy was defined, inclusion and exclusion criterion were established, key databases were searched and articles were revised based on the study criteria. For the purposes of this study, *animal assisted activity and therapy* was defined as any type of regular interaction with animals with the intention of creating positive behavioral, emotional or physical changes related to chronic disease. Inclusion criteria were established as original research articles, case studies, clinical trials, pilot studies or meta analyses, written in English or Spanish, published in the past 10 years, since 2001, related to animal assisted therapy as previously defined, among participants living with chronic disease

including, mental illness. Exclusion criteria included studies with samples, which considered elderly participants and geriatric diseases, in order to see the application of AAT in other fields.

Relevant databases: Science Direct, Medline, Pubmed, PsychInfo, Ebsco, Cinhal and SAGE were searched between March 10, 2011 and April 11, 2011 using the key words animal assisted therapy or treatment and chronic conditions or diseases. The titles and abstracts of the articles found in each database were revised based on the inclusion and exclusion criterion. Thirty-one articles were found and 12 were eliminated as they did not comply with the inclusion criteria. Additionally, most of them were not research studies and they included elderly participants. The matrix method was utilized to keep track of the results for this search. Three literature reviews, one meta-analysis and 12 original research articles were found after completing the database searches, and 2 more research articles were found within the three literature reviews and meta-analysis⁽¹⁵⁻¹⁸⁾. A total of 18 articles met the inclusion criteria for this review.

Results

As mentioned in the previous section, 18 articles met the inclusion criteria for this review. Out of the 18 articles mentioned in the previous section, a table was built in order to summarize the design and level of evidence for each study, in order to clearly organize all of the information. According to the results of this integrative review, three areas were identified, the first being the social effects of AAT/A, the second physical effects of AAT/A, and the third the perspective of caregivers.

Social Effects of Interaction with Animals

The use of animal assisted therapy has been demonstrated to have positive social effects on children with social disorders and disabilities⁽¹⁸⁻²⁰⁾. For example, regular interaction with trained therapy dogs has been confirmed to increase positive social behaviors such as sensitivity and focus, and decrease negative behaviors in children with disabilities⁽²¹⁻²²⁾. Research suggests that this interaction may increase children's ability to concentrate, utilize learned communication skills, and increase social awareness, promoting desirable social skills among children who may otherwise have difficulty attaining them⁽²⁰⁻²¹⁾.

Additionally, a pair of studies have demonstrated the potential use of AAT among hospital patients in order to reduce negative feelings related to hospitalization⁽²²⁻²³⁾. It has been demonstrated that, while pediatric cardiology

patients' interaction with therapy dogs did not produce any significant physiological effects, participants reported positive feelings after being with the animals, which were positively correlated with physical contact with the dog⁽²³⁾. Additionally, the parents also interpreted their children's interaction with the animal even more positively than the children themselves, though few of the parents had physical contact with the dogs. Animal visitation was reported as both a good distraction and normalizing experience of the hospital environment for the children.

The potential benefits for social interventions among children using animal assisted therapy have been examined within an occupational therapy program for autistic children with and without the use of a therapy animal. The results of one study suggest that the incorporation of animal contact into the program increased social interaction and use of language among the children participants, compared to using traditional methods of occupational therapy without animals⁽²⁴⁾. These results coincide with those of other studies that attribute the increase in positive social behavior to the animals' ability to influence children more than they can influence adults^(15,25).

Adults with various medical conditions have also been reported to benefit from working with therapy animals socially, emotionally and psychologically⁽²⁵⁻²⁹⁾. For example, after examining the use of AAT among cancer patients, it was revealed that, while participants reported that the AAT sessions helped to relieve their anxiety and were good distraction from the hospital environment, these results were not found statistically significant when compared to reading sessions and human visits⁽²⁷⁾. These results coincide with those from a qualitative study that examined use of AAT among cancer patients, which revealed that participants living with cancer often preferred AAT to interaction with human visitors⁽²⁸⁾.

Several studies have demonstrated that adults living with mental illness have experienced positive results after participating in interventions with therapy animals. For example, it was found that AAT was successful in increasing schizophrenic participants' personal motivation and ability to feel pleasure⁽²⁵⁾. Additionally, patients who had previously been socially disconnected became more socially engaged when the therapy dog was present and showed feelings of attachment towards the animal. Similar results were found in another study when adult participants with schizophrenia, behavioral disorder and anxiety related disorders who were given the opportunity to work with farm animals, experienced significant increases in self-efficacy, coping ability and quality of life at the end of a six month follow-up after the intervention, while the control group, who had attended regular therapy sessions, experienced no changes⁽²⁶⁾.

Physical Effects of Interaction with Animals

Children's natural fascination with animals has proved itself useful, as interaction with animals can be used as a distraction from anxiety provoking events like hospitalization or other traumatic episodes^(22,30). In one study on the effect of AAT on the pain levels of hospitalized pediatric patients, the caregivers' perception of their children's pain levels revealed that the participants in the AAT intervention group had lower levels of pain than those in the control group, where participants relaxed quietly for 15 minutes with no therapy animal⁽³⁰⁾. These results were significant as, on average, the patients' pain levels lowered the same as if they had taken acetaminophen. The child patients in the intervention group reported feelings of increased well-being, which is caused by an increase in the release of endorphins and lymphocytes, which in turn increase immune response⁽³⁰⁾. In a different qualitative study, the pain perception of hospitalized children was also found to decrease with the use of AAT⁽³¹⁾. However, according to interviews with the participants, this positive result was explained by console, physical contact and feelings of home that the therapy animal was able to give a hospitalized child. Though these studies explain the decrease children's pain perception differently, the result and conclusions are quite similar, in that children are less likely to request pain medication if exposed regularly to AAT.

Finally, AAT has also been demonstrated to reduce stress in children with Autism Spectrum Disorders (ASD). The Cortisol Awakening Response, which has been found to indicate stress levels of 42 children with ASD decreased significantly (from 58% to 10%) when service dog were present, demonstrating the ability of the dogs to decrease the children's level of stress⁽¹⁹⁾. These results are consistent with other studies which suggest that participation in ATT lowers feelings of stress and anxiety of hospitalized children^(22,30-31).

Health Professionals' Perspective

The opinions of health professionals and administrative staff regarding the incorporation of an AAT program in their hospital's pediatric ward were studied both before and after the program's implementation⁽³²⁾. Results reveal that, while participants originally had fears of the animals' possible aggression and infection, they were open to the program and expected positive results related to distracting the children from an intimidating hospital environment. After integrating the AAT program, the hospital workers reported feeling more open to the program than they had prior to its installation and reported that the animals created a friendlier atmosphere.

Discussion

Animal assisted therapy has been demonstrated valuable in numerous settings for various patient profiles such as children, adults and the elderly, although no studies with teen participants in AAT programs were found. Almost all of the studies included in this review reported use of therapy dogs, though no studies were found which compared the effect of using different therapy animals. While the existing studies of interaction with therapy dogs report positive results among adult participants living with chronic disease, there is little research on the use of AAA/T among children living with chronic diseases; no studies were found on the effects of AAT among children living with HIV/AIDS. There are many case studies, personal testimonies and small pilots, which declare AAA/T and general interaction with animals to be effective complementary therapy for many conditions, but very few large clinical trial studies which examine the use of AAA/T as treatment for a specific condition were found. For example, among men living with HIV who have pets, it has been reported that there are important emotional components to pet ownership, such as attachment, companionship and sense of personal responsibility which positively reinforced healthy habits related to their medical condition⁽³³⁾. Although this study demonstrates the potential importance of animal interaction among people living with chronic disease, this effect is shown among people who already have pets, not among AAA/T participants. Further research needs to be done in the area of AAT for people living with HIV in order to determine if these results could be repeated among patients who do not have pets, but participate in an AAA/T program. Additionally, concerns related to potential infections caused by interaction with animals should be addressed and weighed against the possible benefits of pet ownership for patients.

As discussed, the existing AAA/T research has revealed its importance for social interventions among children. Children with Autism Spectrum Disorder and hospitalized children are two prevalent groups that have been demonstrated to benefit from participation in AAA/T^(1,6,19,22-24,30,34). Autism is included as a priority condition in the World Health Organization's Mental Health Gap Action Program, which recommends generating many strategies to control Autism⁽³⁵⁾. The use of AAA/T among Autistic children has been demonstrated to increase socially desirable behavior such as interest and social motivation, in addition to increasing social interest among AAA/T participants^(19,23). Animal assisted activities and therapy is able to benefit hospitalized children with many different conditions, by reducing the trauma of hospitalization,

facilitating adaption to the hospital environment, and reducing anxiety^(1,6,23,30-31). It is therefore important to consider the possibilities of implementing AAA/T programs in these two populations, as the use of therapy animals is both effective and sustainable.

Consequently, it is necessary to examine why there is such limited access to ATT programs. It may be explained by the lack of interest among health professionals, possibly due to fear of infection, contamination and animal aggression⁽³²⁾. To target this fear, Santa Clara Valley Medical Center developed a strict protocol, specifically drawing distinguishing lines between service dogs, therapy animals and pets, in order to maintain the AAT program and reassure health professionals about the improbability of increasing hospital wide infection rates⁽³⁶⁾. After considering the positive effects of AAT for hospital patients and the success of enforcing strict rules regarding animal visitation, it is a feasible option for medical centers and hospitals to consider its implementation as a complementary therapy option for patients.

Conclusions

In conclusion, the potential benefits of implementing more AAA/T programs in medical centers and hospitals are numerous. When considering AAA/T's effectiveness in varied environments among patients of all ages, it becomes clear that more research must be done to determine the function AAA/T may have in complementary therapy for chronic conditions. Of particular importance is AAA/T's potential role among children in both educational and medical settings; more research should be done in the area of children living with chronic diseases that require strict adherence to treatment such as HIV, and AAT's prospective use as an educational tool to teach children about the importance of self-care for their medical conditions. This alternative therapy is low cost, demonstrates many favorable outcomes and, if utilized correctly, could improve the lives of many people living with various medical and social conditions.

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