

## Research Article

# Resident and therapist views of animal-assisted therapy: Implications for occupational therapy practice

Beth P. Velde,<sup>1</sup> Joseph Cipriani<sup>2</sup> and Grace Fisher<sup>2</sup>

<sup>1</sup>East Carolina University, Greenville, North Carolina and <sup>2</sup>Department of Occupational Therapy, College Misericordia, Dallas, Pennsylvania, USA

*Animal-assisted therapy is offered in a wide variety of settings. The literature contains few studies investigating animal-assisted therapy from an occupational therapy perspective. More information is needed to describe the use of animals as a therapeutic modality in occupational therapy. Three qualitative case studies were analysed to describe the perceptions of clients and therapists regarding animal-assisted therapy. This analysis was synthesised with an extensive literature review to produce a perspective of animal-assisted therapy for occupational therapy. Animal-assisted therapy could be a beneficial modality for occupational therapy. The Lifestyle Performance Model provides a useful framework for analysis and interpretation of the positive outcomes of animal-assisted therapy in an occupational therapy context.*

**KEY WORDS** animal–human bonds, case study, Lifestyle Performance Model, pets, qualitative methodology, therapeutic modalities.

## Introduction

Animal-assisted therapy (AAT) is defined as ‘The introduction of an animal into the immediate surroundings of an individual, or a group, as a medium of interaction with a therapeutic purpose’ (McCullough, as cited in Willis, 1997, p. 78). Also known as pet-facilitated therapy, it is currently offered in a wide variety of settings such as nursing homes, rehabilitation centres, developmental centres, acute care, psychiatric centres, and hospices (Brickel, 1986; Redefers & Goodman, 1989;

Chinner & Dalziel, 1991; Fick, 1993; Barba, 1995; Dossey, 1997; Jorgenson, 1997; Willis, 1997; Barker & Dawson, 1998; Bernstein, Friedmann & Malaspina, 2000; Marr *et al.*, 2000).

The literature indicates that pets were used as part of therapy as early as 1792 at the Quaker Society of Friends York Retreat in England. Florence Nightingale appreciated the benefits of pets in the treatment of individuals with illness. The US military promoted the use of dogs as a therapeutic intervention with psychiatric patients in 1919 at St Elizabeth’s Hospital in Washington, DC. Increased recognition of the value of human–pet bonding was noted by Dr Boris Levinson in 1961. In 1990, Dr William Thomas developed a therapeutic environment, called the Eden Alternative, which sought to assimilate the natural world, including animals, into long-term care (Hooker, Freeman, & Stewart, 2002).

In 1995, the Journal of the American Medical Association outlined the benefits of AAT at a number of health care facilities in Chicago, including the Schwab Rehabilitation Hospital and Care Network, Grant Hospital, Shriner’s Hospital for Crippled Children, and the Rehabilitation Institute of Chicago (Voelker, 1995).

Animal-assisted therapy is currently provided by various health-care or human service professionals within the bounds of their particular field of expertise (Janssen, 1998). The therapeutic use of animals can occur in three basic ways: (i) pets are used as companions for individuals who are either living independently in their own home or in assisted living facilities; (ii) pets are used in institutions where they help to stimulate and/or be companions to the residents; and (iii) animals visit institutions to help stimulate the residents’ interest and provide a topic of conversation (Willis, 1997).

In an evidence-based practice review of 76 AAT articles published after 1984, Cipriani, Lockavich, Lowe, Reese, Zigner & Zoeller (2002) failed to locate any comprehensive survey research involving occupational therapists that identified if they used AAT,

---

**Beth P. Velde** PhD, OTR/L; Associate Professor. **Joseph Cipriani** Ed.D., OTR/L; Professor. **Grace Fisher** Ed.D., OTR/L; Assistant Professor.

Correspondence: Beth P. Velde, East Carolina University, Greenville, North Carolina USA.  
Email: veldeb@mail.ecu.edu

Accepted for publication October 2003.

© 2004 Australian Association of Occupational Therapists.

or their perceptions of the potential use of AAT in their practice. One survey using a non-random sampling of occupational therapists who currently or historically used AAT in their practice was limited by a 33% response rate ( $n = 30$ ) (Casey, 1996). Conference proceedings covering the same time period, and anecdotal evidence suggests occupational therapists are demonstrating growing involvement in the provision of AAT.

### Benefits of animal-assisted therapy

Studies of the human-companion animal bond reveal many physiological and psychological benefits. Petting a dog with which one is bonded to promotes relaxation, characterised by decreased blood pressure and increases in peripheral skin temperature (Baun, Oetting & Bergstrom, 1991). A report by Connor and Miller (2000) on the use of pet visitation in a critical-care medical setting suggested that AAT had a calming influence on patients, and advocated the use of AAT to increase patient cognition, range of motion, strength, and balance. Nurses have used AAT in the perioperative setting to decrease preoperative anxiety, improve patient positive outlook, and reduce the need for preoperative medication (Miller & Ingram, 2000). Animal-assisted therapy may be helpful in reducing fear and anxiety in patients with a psychiatric condition prior to receiving electroconvulsive therapy (Barker, Pandurangi, & Best, 2003). There are also positive reports of the use AAT in helping individuals with spinal cord injury (Counsell, Abran & Gilbert, 1997). A recent occupational therapy study found that senior citizens in a walking program at an assisted living facility walked further when with a dog than when they walked alone, indicating the potential value of pets in physical conditioning (Herbert & Greene, 2001).

Animals fulfil emotional needs when considered a companion or partner (Rosenkoetter, 1991). Furthermore, relationships with animals can facilitate learning, provide comfort, promote a sense of safety and improve self-esteem (Rosenkoetter). An individual with type 1 diabetes reported that her Jack Russell terrier would awaken her at night by licking her face when the woman's blood sugar levels had fallen to dangerously low levels. The woman was convinced that her dog sensed her discomfort and was reacting to this (C. S. Daniels, 2003, personal communication).

Although results were inconclusive, findings on the positive behavioural outcomes of AAT were suggested in a quantitative investigation conducted at a residential program for children with multiple disabilities (Heimlich, 2001). Pets have also been used therapeutically with children and adolescents in a psychiatric facility (Banman, 1995). A study of children in a paediatric cardiology inpatient unit demonstrated that

AAT can reduce stress and improve morale (Wu, Niedra, Pendergast, & McCrindle, 2002). A recent investigation of pet ownership by Allen, Kellegrew and Jaffe (2000) in persons with HIV or AIDS showed pets can provide emotional support and a reason to persevere through a serious illness.

Zissleman, Rovner, Shmuely and Ferrie (1996) found that AAT decreased irritable behaviours in patients with mental illness, although they did not find statistically significant treatment differences among a group of gero-psychiatric inpatients when comparing an exercise program to a pet therapy program. Variables included self-care, disoriented behaviours, depressed or anxious mood, irritable behaviours and withdrawn behaviours. When a 'pets as therapy' program was conducted over a 12-week period with a group of chronic ward-bound patients with dementia, Walsh, Mertin, Verlander and Pollard (1995) reported a substantial drop of noise levels in the living quarters for the experimental group, as well as a statistically significant drop in heart rate of the residents.

Phear (1997) described positive client attitudes towards visiting dogs in a day hospice in England. Chinner and Dalziel (1991) examined attitudinal, behavioural, and interactive changes as exhibited by terminally ill residents and their caregivers when a dog was introduced as a resident in the hospice. Animal-assisted therapy increased patient-staff interaction, eased patient-visitor relations, and provided temporary happiness, comfort, and entertainment.

Nursing home environments and other long-term care facilities serving older people are among the most common settings where AAT is used. Research on the benefits of using animals in these settings has yielded mixed results. Among positive findings, a study by Edwards and Beck (2002) examined the effect of fish aquariums on individuals with Alzheimer's disease who were living in special units. Findings were positive in terms of weight gain and a decline in the need for nutritional supplements. An experimental study of AAT in long-term care showed AAT can decrease loneliness in residents (Banks & Banks, 2002). Calvert (1989) studied the degree of loneliness in nursing home residents and their interaction with a pet program. Results indicated that residents who had greater levels of interaction with an animal experienced less loneliness. Winkler, Fairnie, Gericevich and Long (1989) reported increased social interaction between nursing home residents and other humans 6 weeks after the introduction of a resident dog. However, the majority of the interactive behavioural changes diminished 22 weeks after the dog was introduced. An occupational therapy investigation in long-term care called for the provision of animal-assisted therapy as part of a regularly scheduled routine, as client anticipation of

the arrival of the pets is an important component of the therapeutic process (Roenke & Mulligan, 1998).

Fick (1993), an occupational therapist, investigated the frequency and types of interactions during a socialisation group of nursing home residents. Two conditions consisting of 'dog present' and 'dog absent' were observed during the group sessions. Results supported AAT as an effective means for increasing verbal interactions among male residents in long-term care. A multidisciplinary team in a long-term care unit in Moose Jaw, Saskatchewan, Canada obtained positive results from providing pet therapy in both indoor and outdoor group settings, through inviting Humane Society volunteers and their children to assist in the program (McQuillen, 1985).

Several studies with older adults either did not yield statistically significant results, or the results were inconsistent, with a control group outperforming the AAT group on certain indicators. These included non-significant results from the use of an aquarium in a study by DeSchraver and Cutler-Riddick (1998); a decrease in depression in the control group but not the AAT group in a study by Crowley-Robinson, Fenwick and Blackshaw (1996); improved behaviours in initiating brief conversation in the control group of the Bernstein *et al.* (2000) study; and increased life satisfaction in the control group in a study by Francis, Turner and Johnson (1985).

Although many descriptive reports of AAT stress positive effects with some evidence from controlled studies of its effectiveness, there is a need for more controlled studies in the quantitative paradigm on AAT, including those that collect data on any negative effects. Also, critical reviews of the literature and meta-analyses will provide for a more comprehensive and informed view of the effects of AAT. A recent study by Cipriani *et al.* (2002) used the five level evidence-based practice framework devised by Moore *et al.* (cited in Holm, 2000) to code studies on the effectiveness of AAT with older adults. Eighteen of the 23 studies that met inclusion criteria were conducted at level III or higher, with seven studies having control groups, leading Cipriani *et al.* to conclude that more recently published research studies in the quantitative paradigm on AAT with older adults are better designed. Yet Cipriani *et al.* found only four studies in the qualitative paradigm, with only one study conducted by occupational therapists or related to occupational therapy.

An examination of published research leads to the conclusion that little is known qualitatively about the impact of AAT from the perspective of the therapist or the participant involved. Therefore, this article will discuss three qualitative case studies involving three systems of care that explored the meaning of AAT.

## Occupational therapists' views of animal-assisted therapy

By using a phenomenologically based research design, Ferrese, Forster, Kowalski and Wasilewski (1998) interviewed six occupational therapists and three occupational therapy assistants in Pennsylvania to determine the impact of AAT with elderly participants in long-term care settings. These participants were employed in systems that included a psychiatric setting, a facility for persons with developmental disabilities, and seven skilled nursing facilities. Clientele in the facilities consisted of elders with diagnoses of developmental disabilities, physical disabilities and psychiatric disabilities. Comparable types of programs were offered by therapists across the facilities and included remedial and compensatory strategies. The therapists believed AAT impacted clients through internal responses to the animal and through responses to the external environment. The themes were compiled by using the analysis techniques outlined by Morse and Field (1995), and are described below.

'Motivation is increased with animal interaction'. For example, persons who had refused therapy came to the therapy sessions when they knew animals were going to be present. Interaction with animals changes the morale of long-term care residents. Occupational therapy participants continue doing therapeutic activities for a longer duration when animals are present, thereby potentially increasing the benefits of occupational therapy.

'Residents benefit physically from intervention with animals.' The benefits named by the therapists included increased range of motion, better sensory modulation and sensory interpretation, and higher tolerance for physical activity with pain present.

'Animals promote reminiscence and alertness.' Therapists described occupational therapy participants actively recalling memories related to personal pets. These memories contained both real and symbolic meanings. Therapists working with clients who had chronic and persistent mental illness noted increased alertness and cognitive ability. An additional cognitive benefit is the ability of the animal to help the client focus and to remain attentive for longer periods of time.

'Animal-assisted therapy enhances emotional well being' as identified by changes in affect, facial expression and verbalisations. Smiles are persistently part of the therapy session, even for those residents who seldom smile. Agitated residents appeared relaxed during AAT. Therapists reported that sessions ended with a question about when the animals would return — developing a sense of anticipation not typically found in long-term care residents.

'Residents display improved social interaction' during AAT sessions. This includes conversations with other residents and with the animal handlers. The therapists hypothesised a change in the routine facilitated conversations.

'AAT provides an opportunity for nurturing' not typically available for long-term care residents. A caring atmosphere is promoted by the physical demands of many of the animals — nudging of hands by the animal for one more pet creates a feeling of being needed. In addition, 'Residents engage in the responsibility of pet caretaking.' Assuming new roles and responsibilities for another living being provides a sense of ownership and provides opportunities for contribution.

Finally, 'AAT creates a home-like environment' within systems that frequently have physical environments that are institutionalised and barren. Many long-term care residents had pets prior to being admitted to the facilities. Having animals present creates a familiar atmosphere with familiar non-human objects typically associated with home.

## Residents' views of animal-assisted therapy

Garland, Hayik, Hachonis, McDonough and Johnson (1997) investigated the emotional reaction of hospice residents to AAT. Persons trained through the Delta Society led the AAT sessions. The researchers conducted interviews with two hospice residents and the two nurses most familiar with these residents who had observed the residents' participation. The interview questions focused on the hospice residents' behavioural responses, verbal responses, and affective responses during AAT. Transcripts were reduced, analysed and coded by the researchers who looked for consistent words, phrases, or themes in the data (Morse & Field, 1995). Four themes resulted. These included 'brightening your day', 'bringing up memories', 'getting my mind off things' and 'making the family feel better.' These themes are very similar to the research outcomes discovered by Ferrese *et al.* (1998), as described earlier in this article. While the Ferrese *et al.* study interviewed occupational therapists and the Garland *et al.* study interviewed residents and their primary caregivers, the themes discovered are complementary. The first three themes may provide support for the use of AAT by occupational therapists working in long-term care who wish to work on goals relating to remotivation, cognition including memory and pain management.

However, the theme 'making the family feel better' brings a new dimension to AAT. When working in a long-term care setting or hospice, the involvement of

significant others in the lives of residents is essential to promote quality of life. The Garland *et al.* (1999), study discovered that animals facilitated conversation between residents and significant others and gave the family system an activity in which to participate. This activity was both meaningful and normalising, reducing the stigma of illness.

## When is animal-assisted therapy also occupational therapy?

According to the Delta Society (2002), animal-assisted therapy is conducted by a professional health or human service provider who is skilled in the use of clinical applications of animal-human interactions. Professionals may come from a variety of disciplines including nursing, occupational, physical and recreation therapy, and medicine. What makes animal-assisted therapy different when an occupational therapist uses it? Witt (2002) conducted a qualitative research study to answer this question. By using qualitative techniques including interview and observation, Witt collected data from two occupational therapists involved in similar occupational therapy practices, a member of Delta Society, and an animal trainer. According to participants in her study, 'You need first to be able to be a therapist.' This includes development of an intervention plan that is uniquely occupational therapy, documenting the results of the occupational therapy approaches used and finally having the knowledge base to use animals effectively.

'The dog was simply the modality' suggests that, like other types of modalities, occupational therapists use animals through approaches such as create/promote, establish/restore, maintain, modify, and prevent (Youngstrom *et al.*, 2002). For example, in the establish/restore approach, mastering the use of grooming tools for a dog may support the establishment of a personal care routine for the client. Learning caregiving for a dog could establish a new occupation. Or modification of objects used in dog training and care could help sustain a meaningful activity in a person's lifestyle.

'Because you've got a dog', the therapist-client relationship is facilitated through a common non-human object. Communication is facilitated as therapist and client share stories about past and present pets. Social interaction is less complicated when there is an external focus for the conversation.

The two therapists involved in the study indicated that the occupational therapist's role was to effectively use the animal to 'gain so much more from it (the therapy)'. Because the animal is not typically associated with therapy, the presence of the animal changes the physical and social environment. Skilful use of the animal by the occupational therapist

requires a client-centred approach so that the therapist chooses an appropriate animal for each client and maximises the use of the animal in the therapeutic encounter.

## Discussion

Synthesising the information from the literature review and these three case studies, it is apparent that animals can be used effectively in occupational therapy intervention. While the AAT offered in the study by Garland *et al.* (1997) was not facilitated by occupational therapists, the study offers support for positive outcomes that are related to occupational therapy goals. Therefore, it is important to develop models of AAT that are specific to occupational therapy in order to distinguish the process and outcomes from AAT offered by other disciplines.

This development may be supported by the use of a model of practice such as the Lifestyle Performance Model (Velde & Fidler, 2002). The Lifestyle Performance Model focuses on five areas of a person's life. Four of these domains involve clusters of human performance. They include those activities that are intrinsically gratifying, facilitate societal contribution, promote reciprocal interpersonal relationships and maintain self-care and self-maintenance. The fifth area is the responsive environment and includes the temporal, physical, social and political environments. Upon evaluating the themes present in the three case studies, using AAT is compatible with the framework of the Lifestyle Performance Model and provides the potential for a number of activities that fit into the four domains.

Animal-related activities discussed in the literature and in the case studies include grooming, feeding, exercising, petting, investigating a pet's lineage, communicating with animals and animal lovers, volunteering in animal shelters, and maintaining objects related to animals. Because the Lifestyle Performance Model is based on the premise that the meaning of activities and placement in the four domains is unique to each individual, the therapist skilled in AAT would consider the role an animal could play within each domain.

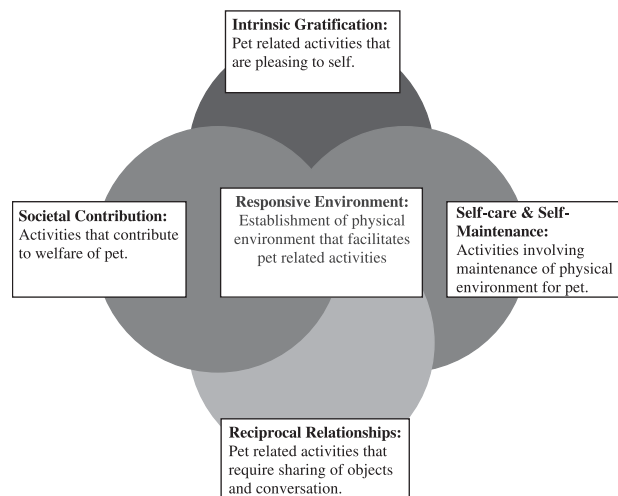
The model contends that the environment is multifaceted and must be understood and used by the occupational therapist to facilitate client developed goals. Animals are an integral part of the non-human environment. For example, the case studies revealed the importance of animals in creating a living environment that is home-like and nurturing. Furthermore, the social environment is impacted favourably by the presence of animals, facilitating communication and conversation. Finally, animals appear to impact the

temporal environment by making time appear to move at a pleasant pace.

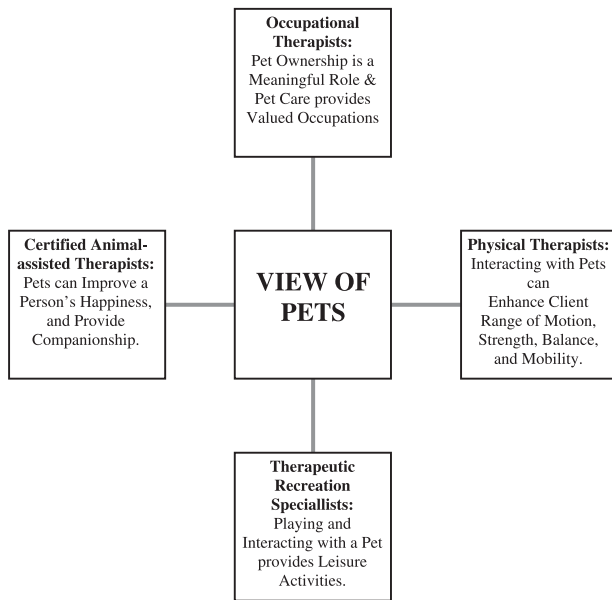
The model also contends that activities, including those related to object use, have real and symbolic meaning (Fidler & Velde, 2000). Animal-related activities carry with them rich symbolic meaning. For example, caring for a small animal that requires holding, stroking, talking to, and feeding may symbolise the mother or parent role for many residents of long-term care facilities. This role may have been abandoned voluntarily or out of necessity, and the presence of an animal may provide a meaningful activity substitute.

An analysis of AAT and the impact of pet ownership via the Lifestyle Performance Model is illustrated in Fig. 1. It shows how pets or animal visitors can provide a person with internal emotional gratification, a sense of social contribution, a positive interactive experience, and an opportunity to provide care. Such human-animal interactions are worthy of consideration during the assessment process.

Figure 2 provides the authors' perspective of how various disciplines may view the use of animals in intervention. Because they share the same modality (AAT), the goals may be interdependent. Physical therapists may incorporate the use of animals to improve client mobility, balance, strength, and range of motion. Recreation therapists incorporate the use of animals in intervention to provide clients with satisfying hobbies and leisure skills. All the health professionals involved in AAT develop individually orientated goals and may include an intervention plan. To be occupational therapy, the intervention must focus on the use of meaningful occupations that promote an individual's quality of life. Pet ownership, care, and regular interaction are all potentially meaningful occupations.



**FIGURE 1:** Occupational therapy and pets in the context of the Lifestyle Performance Model.



**FIGURE 2:** View of pets as an intervention by occupational therapists, physical therapists, recreation therapists, and certified animal-assisted therapists.

## Limitations

The study is limited to three cases in Pennsylvania and one in North Carolina. The authors were the directors of the research studies as part of a professional entry-level Masters program in occupational therapy. It is possible that their direct involvement with the research limited their synthesis of the case studies with the literature and theory presented. Data collection was limited to primarily interviews and observation. Additionally, the authors of this article and investigators in the case studies have experience using the Lifestyle Performance Model and chose to only apply this theory to AAT. The lack of research literature investigating AAT from an occupational therapy perspective did not allow for verification of these conclusions by other researchers.

## Research recommendations

Future researchers must carefully choose methods based on the questions being investigated. For example, to understand how AAT is being used by occupational therapists, surveys may help to quantify how frequently and in what way occupational therapists provide AAT. Outcomes of AAT interventions need to be understood from the participants' perspectives and the therapists' perspectives using qualitative methodology. Measuring negative and positive outcomes of AAT in occupational therapy require both qualitative and quantitative processes. Occupation-based assessments, which include pet ownership, need to be developed. Pet ownership as an occupation could

be better understood by using a variety of research methods.

## Conclusion

The responses in both the Ferrese *et al.* (1998) and Witt (2002) case studies indicate occupational therapists may address pet care as an occupation-based activity, purposeful activity or as a preparatory method (Youngstrom *et al.*, 2002). For example, using an animal within a single session or as part of short program designed to facilitate specific social responses (e.g. non-verbal social behaviours) could be viewed as a preparatory method to get the client ready to learn new skills in social interaction that can be used in non-animal based settings.

The Ferrese *et al.* (1998) study discussed the use of animals in restoring a lost role — that of caretaker — and the self-use of animals by residents of hospice to facilitate conversation with loved ones in their role as a family member. Using pets to facilitate occupation-based activities is an important part of providing a responsive environment to individuals in residential care.

In the Witt (2002) case study, occupational therapists stressed the importance of an intervention that is uniquely occupational therapy. The authors hope the present study helps facilitate dialogue towards the establishment of a professional identity of occupational therapists using AAT.

Increasing recognition of the value of AAT in medical environments has raised concerns about safety. Occupational therapists using AAT need to develop policies and procedures such as identification of patients who may have pet allergies, and procedures for treating possible patient injuries caused by the animals. Disposable cloths may be placed on a patient's bed linen, on which an animal can lie. Hand washing is a constant consideration, along with the proper training of the pet visitors (Connor & Miller, 2000). Useful recommendations emanating from a study of fall hazards included confining pets during busy times of the day, being aware of pet sleeping locations, and placing pet food out of traffic corridors (Clemson, Roland & Cumming, 1997). A comprehensive discussion of considerations when initiating an AAT program in practically any setting can be found in the book edited by Fine (2000).

## Acknowledgements

The case studies completed by Ferrese *et al.* (1998) and Garland *et al.* (1997) were completed while they were graduate students in occupational therapy at College Misericordia in Dallas, PA, USA. The case study by

Witt (2002) was completed while she was an occupational therapy student at East Carolina University. The authors of this manuscript were faculty members at these institutions and directed the research.

## References

- Allen, J. M., Kellegrew, D. H. & Jaffe, D. (2000). The experience of pet ownership as a meaningful occupation. *Canadian Journal of Occupational Therapy*, 67, 271–278.
- Banks, M. R. & Banks, W. A. (2002). The effects of animal-assisted therapy on loneliness in an elderly population in long-term care facilities. *The Journals of Gerontology. Series A, Biological Sciences and Medical Sciences*, 57, M428–M432.
- Banman, J. K. (1995). Animal-assisted therapy with adolescents in a psychiatric facility. *Journal of Pastoral Care*, 49, 274–278.
- Barba, B. E. (1995). The positive influence of animals: Animal-assisted therapy in acute care. *Clinical Nurse Specialist*, 9, 199–202.
- Barker, S. B. & Dawson, K. S. (1998). The effects of animal-assisted therapy on anxiety ratings of hospitalized psychiatric patients. *Psychiatric Services*, 49, 797–801.
- Barker, S. B., Pandurangi, A. K. & Best, A. M. (2003). Effects of animal-assisted therapy on patients' anxiety, fear and depression before ECT. *Journal of ECT*, 19, 38–44.
- Baun, M. M., Oetting, K. & Bergstrom, N. (1991). Health benefits of companion animals in relation to the physiologic indices of relaxation. *Holistic Nursing Practice*, 5, 16–23.
- Bernstein, P. L., Friedmann, E. & Malaspina, A. (2000). Animal-assisted therapy enhances resident social interaction and initiation in long term care facilities. *Anthrozoos*, 13, 213–224.
- Brickel, C. M. (1986). Pet facilitated therapies: A review of the literature and clinical implementation implications. *Clinical Gerontologist*, 5, 309–332.
- Calvert, M. M. (1989). Human–pet interaction and loneliness: A test of concepts from Roy's adaptation model. *Nursing Science Quarterly*, 2, 194–202.
- Casey, H. M. (1996). A survey of occupational therapists using pet-facilitated therapy. *Home Health Care Management and Practice*, 8, 10–16.
- Chinner, T. L. & Dalziel, F. R. (1991). An exploratory study on the viability and efficacy of a pet-facilitated therapy project within a hospice. *Journal of Palliative Care*, 7, 13–20.
- Cipriani, J., Lockavich, E., Lowe, E. A., Reese, K., Zigner, S. & Zoeller, A. (2002). A systematic review of the literature on animal-assisted therapy with the geriatric population using the tool of evidence based practice. Unpublished Masters Project. Dallas: College Misericordia.
- Clemson, L., Roland, M. & Cumming, R. G. (1997). Types of hazards in the homes of elderly people. *Occupational Therapy Journal of Research*, 17, 200–213.
- Connor, K. & Miller, J. (2000). Help from our animal friends. *Nursing Management*, 31, 42–46.
- Counsell, C. M., Abram, J. & Gilbert, M. (1997). Animal-assisted therapy and the individual with spinal cord injury. *SCI Nursing*, 14, 52–55.
- Crowley-Robinson, P., Fenwick, D. & Blackshaw, J. (1996). A long-term study of elderly people in nursing homes with visiting and resident dogs. *Applied Animal Behaviour Science*, 47, 137–148.
- Delta Society (2002). *About animal-assisted activities and animal-assisted therapy* [on-line serial 1–7]. <http://www.deltasociety.org/aboutaaat.hem>
- DeSchraver, M. & Cutler-Riddick, C. (1998). Effects of watching aquariums in elders' stress. *Anthrozoos*, 4, 44–48.
- Dossey, L. (1997). The healing powers of pets: A look at animal-assisted therapy. *Alternative Therapies*, 3, 8–16.
- Edwards, N. E. & Beck, A. M. (2002). Animal-assisted therapy and nutrition in Alzheimer's disease. *Western Journal of Nursing Research*, 24, 697–712.
- Ferrese, L., Forster, B., Kowalski, R. & Wasilewski, L. (1998). Occupational therapists: Perspectives on using animal-assisted therapy with an elderly population. Unpublished masters project. Dallas: College Misericordia.
- Fick, K. M. (1993). The influence of an animal on social interactions of nursing home residents in a group setting. *American Journal of Occupational Therapy*, 47, 529–534.
- Fidler, G. S. & Velde, B. P. (2000). *Activities, reality and symbol*. Thorofare, NJ: Slack.
- Fine, A., ed. (2000). *Handbook on animal-assisted therapy*. San Diego, CA: Academic Press.
- Francis, G., Turner, J. & Johnson, S. (1985). Domestic animal visitation as therapy with adult home residents. *International Journal of Nursing Studies*, 22, 201–206.
- Garland, C., Hayik, S., Machonis, C., McDonough, C. & Johnson, C. (1997). Emotional effects of pet facilitated therapy on hospice residents. Unpublished masters project. Dallas: College Misericordia.
- Heimlich, K. (2001). Animal-assisted therapy and the severely disabled child: A quantitative study. *Journal of Rehabilitation*, 67, 48–54.
- Herbert, J. D. & Greene, D. (2001). Effect of preference on distance walked by assisted living residents. *Physical and Occupational Therapy in Geriatrics*, 19, 1–15.
- Holm, M. B. (2000). Our mandate for the new millennium: Evidence-based practice. *American Journal of Occupational Therapy*, 54, 575–585.
- Hooker, S. D., Freeman, L. H. & Stewart, P. (2002). Pet therapy research: A historical review. *Holistic Nursing Practice*, 17, 17–23.
- Janssen, M. A., (1998). Therapeutic interventions: Animal-assisted therapy programs. *Palaestra Macomb*, 14, 40–42.
- Jorgenson, J. (1997). Therapeutic use of companion animals in health care. *Journal of Nursing Scholarship*, 29, 249–254.
- Marr, C. A., French, L., Thomason, D., Thompson, L. D., Greening, G., Mormon, J., Henderson, I. & Carroll, W. H. (2000). Animal-assisted therapy in psychiatric rehabilitation. *Anthrozoos*, 13, 43–47.
- McQuillen, D. (1985). Pet therapy: Initiating a program. *Canadian Journal of Occupational Therapy*, 52, 73–76.
- Miller, J. & Ingram, L. (2000). Perioperative nursing and animal-assisted therapy. *Association of Operating Room Nurses Journal*, 72, 477–483.
- Morse, J. M. & Field, P. A. (1995). *Qualitative research methods for health professionals*. Thousand Oaks, CA: Sage Publications.

- Phear, D. (1997). A study of animal companionship in a day hospice. *Society for Companion Animal Studies Journal*, 9, 1–3.
- Redefer, L. A. & Goodman, J. F. (1989). Brief report: Pet facilitated therapy with autistic children. *Journal of Autism and Developmental Disorders*, 19, 461–467.
- Roenke, L. & Mulligan, S. (1998). The therapeutic value of the human-animal connection. *Occupational Therapy in Health Care*, 11, 27–43.
- Rosenkoetter, M. M. (1991). Health promotion: The influence of pets on life patterns in the home. *Holistic Nursing Practice*, 5, 42–51.
- Velde, B. P. & Fidler, G. S. (2002). *Lifestyle performance: A model for engaging the power of occupation*. Thorofare, NJ: Slack.
- Voelker, R. (1995). Puppy love can be therapeutic, too. *Journal of the American Medical Association*, 274, 1897.
- Walsh, P. G., Mertin, P. G., Verlander, D. F. & Pollard, C. F. (1995). The effects of a 'pets as therapy' dog on persons with dementia in a psychiatric ward. *Australian Occupational Therapy Journal*, 42, 161–166.
- Willis, D. A. (1997). Animal therapy. *Rehabilitation Nursing*, 22, 78–81.
- Winkler, A., Fairnie, H., Gericevich, F. & Long, M. (1989). The impact of a resident dog on an institution for the elderly: Effects on perceptions and social interactions. *Gerontologist*, 29, 216–223.
- Witt, C. (2002). Animal-assisted therapy: An investigative study to define what it is, address its benefits, and describe the role of the occupational therapist in its use. Unpublished Study. Greenville, NC: East Carolina University.
- Wu, A. S., Niedra, R., Pendergast, L. & McCrindle, B. W. (2002). Acceptability and impact of pet visitation on a pediatric cardiology inpatient unit. *Journal of Pediatric Nursing*, 17, 354–362.
- Youngstrom, M. J., Brayman, S. J., Anthony, P., Brinson, M., Brownrigg, S., Clark, G. et al. (2002). *Occupational therapy practice framework: Domain and process*. Bethesda, MD: American Occupational Therapy Association.
- Zissleman, M. H., Rovner, B. W., Shmueli, Y. & Ferrie, P. (1996). A pet therapy intervention with geriatric psychiatry inpatients. *American Journal of Occupational Therapy*, 50, 47–51.