Therapeutic Use of Companion Animals in Health Care

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Purpose: *To explore research that lends credibility to the therapeutic use of animals in health care. By integrating research from other disciplines and applying it to nursing, the art of nursing is fostered through the creative application of knowledge to practice.*

Significance: *Positive physiological and psychological benefits have been linked to the presence of companion animals. For example, researchers suggest that decreases in blood pressure, heart rates, and stress levels, as well as increases in emotional well-being and social interaction are benefits of the human-animal bond.*

Conclusions: *Compiling what has been learned in earlier scientific studies provides direction for future research in nursing to enhance nursing knowledge and expand nursing theory to improve care. Further investigation is necessary to clarify the concepts of animal assisted therapy (AAT) to build a body of useful knowledge for practice.*

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In an age of technology, it is easy to forget the importance of unconditional love, the value of touch, the energy derived from an act of unselfish kindness, and the security of companionship—all of which enhance and improve our quality of life and health. The use of animals as a therapeutic modality in health care is often met with reluctance and skepticism. While some might consider it unreasonable to assume that animals can be prescribed for better health, it has been shown that people who view animals positively can obtain physiological and psychological benefits from the small effects which, repeated frequently, can have a significant effect on their quality of life and in moderating stressful events (Friedmann, 1990).

In health care systems, nurses often act as others' advocates. Therefore nurses must be informed, open, and willing to explore the potentially therapeutic use of animal companionship. The contemporary definition of nursing acknowledges four essential features of practice: (a) attention to the full range of human experiences and responses to health and illness without restriction to a problem-focused orientation, (b) integration of objective data with knowledge gained from an understanding of a patient or groups subjective experience, (c) application of scientific knowledge to the processes of diagnosis and treatment, and (d) provision of a caring relationship that facilitates health and healing (American Nurses' Association, 1995).

Because nursing is an integral part of health services, the potential to use animals as a therapeutic intervention exists on many levels and the concept of animal assisted therapy should be considered. From pediatrics to geriatrics, acute-care facilities to community health, and from prevention to healing, the human-animal bond can be integrated in a holistic approach to care.

To date, much of the literature devoted to human-animal bonding is anecdotal (Cole & Gawlinski, 1995; Duncan, 1995; Harris, Rinehart, & Gerstman, 1993; Johannes, 1996; Rosenkoetter, 1991; Shojai, 1996; Wolcott, 1993;). However, in recent years the quest for obtaining scientific data has gained momentum. Researchers suggest links between animal companionship and improved cardiovascular health as well as increased social interaction (Friedmann, Katcher, Lynch, &

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Thomas 1980). While evidence exists that people benefit in innumerable ways, funding for comprehensive studies remains elusive. Because the goal of nursing practice is to support and enhance the quality of life in health or illness, the value of directing scientific inquiry toward understanding the synergistic phenomena between humans and animals should be given serious consideration by nurses.

History of the Human-Animal Bond

Throughout history, animals have played a significant role in our customs, legends, and religions. Primitive people found that human-animal relationships were important to their very survival, and pet keeping was common in hunter-gatherer societies (National Institute of Health [NIH], 1987). Animal domestication, which began over 12,000 years ago, continues today as humans and animals coexist, interact, and profoundly influence each others social space (Young, 1985). Pet ownership may reflect a largely unsatisfied need among urban dwellers for intimacy, nurturance, and contact with nature. More than half of all U.S. households have a companion animal (NIH, 1987). Pets are more common in households with children, yet there are more pets than children in American households. In U.S. homes there are approximately 51 million dogs, 56 million cats, 45 million birds, 75 million small mammals and reptiles, and millions of aquarium fish (NIH, 1987).

The recent emphasis on the relationship between humans and animals has generated new terms in an effort to more adequately define the complex relationship between people and animals. Merriam-Webster's Collegiate Dictionary (1993) defines the term "pet" as "an animal kept for pleasure rather than utility." The newer term "companion animal" is defined more broadly and is often used interchangeably with the term "pet." It connotes an animal that is frequently in the company of, associates with, or accompanies another or others; one that assists, and lives with another as a helpful friend. The human-companion animal bond is more specifically defined as an attachment that can be interpreted as an affectionate, friendly, and companionable interaction between a human being and an animal (Baun, Oetting, & Bergstrom, 1991).

Interestingly, one of the earliest recorded uses of animals in health care was made by the founder of modern nursing. In 1860, Florence Nightingale (1969) observed that "a small pet is often an excellent companion for the sick, for long chronic cases especially" (p.103). She suggested the use of a caged bird as the only pleasure an invalid confined for years to the same room might enjoy.

The first recorded setting in which animals were used therapeutically was the York Retreat in England (Netting, Wilson, & New, 1987). This retreat, founded in 1792, incorporated small animals such as rabbits and poultry which were cared for by psychiatric patients. This practice was initiated in response to the recent enlightened approach of caring for the mentally ill in an attempt to decrease the use of harsh drugs and restraints.

In the United States, the first extensive use of animals in a therapeutic setting occurred from 1944 to 1945 at an Army Air Corps Convalescent Hospital at Pawling, New York. Patients recovering from war experiences were encouraged to work at the hospital farm with hogs, cattle, horses, and poultry (NIH, 1987).

Since that time, animals have been used in many therapeutic situations. "Hippotherapy," or horseback riding is used in a variety of ways to influence the physical and psychological well-being of a person with movement disorders. Specially trained physical and occupational therapists prescribe therapeutic riding to improve a patient's posture, balance, mobility, and function (NIH, 1987). Porpoises and dolphins have helped autistic children become more responsive. A 1989 study demonstrated that dolphins, as both stimulus and reinforcement, were 2 to 10 times more effective at increasing attention and language skills among children with mental disabilities than were other stimuli and reinforcements used in land-based classrooms (Nathanson & de Faria, 1993).

Companion dogs have been used with great success for the blind and, in recent years, by hearing impaired and wheelchair-bound people. Not only do service dogs provide for more independence and greater mobility, but the presence of a companion dog creates a "magnet" effect which serves to increase the quantity and quality of attention directed toward handicapped people. Research has demonstrated that people with noticeable physical handicaps often make less eye contact, stifle social interactions, and increase their personal distancing. Compared to people without dogs, those with dogs smiled more, received more social greetings and acknowledgments, and engaged in conversations to a much greater extent (Edney, 1992).

Implications for Health Care

To date, scientific inquiry of the human-animal bond has been limited. Lack of funding and a small number of study participants has hampered efforts to generalize findings to a larger population. Beginning in the 1970s, the little research that has been conducted has been aimed at documenting both the psychological and physiologic advantages of animal companionship on human health.

One of the first qualitative research studies to explore a relationship between animals and health examined the effect of social isolation and support on survival rates of patients who were hospitalized in a coronary care unit with a diagnosis of myocardial infarction or angina pectoris. Friedmann and colleagues (1980), recognized depression as a complex state that affects physiological and activity patterns that can alter the progress of a variety of pathologic processes. They hypothesized that the absence of significant companions may interfere with a person's ability to maintain normal activity levels and healthy behaviors. Upon examination of the survival rates of these patients 1 year after their hospitalization, it was reported that 28% of non-pet owners died whereas only 6% of pet owners died. Discriminate analysis was used to examine the interactive and independent effects of physiological severity and pet ownership on patient survival. The percentage of variance added for pet ownership was 2.5 which is statistically significant.

Because Friedmann's study was one of the first to explore the benefits of animals on human health, many issues about the

source of the apparent benefit of pets on survival had to be resolved. First, the authors did not see a protective effect of physical activity needed to walk dogs because owners of pets other than dogs had a better survival rate than subjects without pets. Next, the lack of substantive information about the interactive process in relationships between people and their pets forced the authors to draw their own conclusions about why the human-animal relationship produced health benefits. Because survival among married subjects was not higher, the researchers surmised it was the nature of the relationship with the animal that provided the benefits.

Pets are also a constantly available source of and direction for attention. The un-ambivalent nature of the exchange of affection between people and animals differs from exchanges with family members and other relatives. These interpersonal relationships frequently are charged with ambivalence and negative emotional states. Human love and attention may be earned only with difficulty and sacrifice, or it may be entirely unavailable. Pets are a source of comfort that can be scheduled on demand of the owner, in almost any quantity, without bargaining or supplication. (Friedmann, et al., 1980, p. 310). In addition, Friedmann and colleagues (1980) stated,

> Exchanges of affection or attention between persons and their pets can take place with or without words by these persons. The speechless kind of companionship shared with pets may provide a source of relaxation that human companions who demand talk as the price of companionship may not provide. (p. 310)

Finally, they inferred that "contact comfort" may significantly lower heart rate and blood pressure. Lynch and McCarthy's study (as cited in Friedmann, Katcher, Lynch & Thomas, 1980) suggested that interactions as simple as a nurse holding a patient's hand while taking a pulse produces changes in heart rate and frequency of arrhythmia in coronary care patients. From this, researchers surmised that petting an animal produced a direct physiological effect.

Many unanswered questions provided a direction for further investigation. In 1983, four nurse researchers conducted a study examining the effect on blood pressure, heart rate, and respiratory rate of petting companion dogs versus petting a dog with whom no bond had been established. Baun, Bergstrom, Langston, and Thoma (1983) sought to discover the role of tactile contact in emotional and physical well-being. They theorized that decreases in blood pressure, heart rate, and respiratory rate may be useful in promoting health, especially among coronary-care and long-term care patients. The results of this study indicated that petting a dog indeed produced a relaxing effect. The consequence of petting one's own dog with whom a bond had been formed achieved the greatest effect over time.

Following these studies that appeared to show strong correlation between health and pet ownership, Serpell (1990) conducted a 10-month prospective study to determine the effect of dog or cat ownership on human health and well-being. The results of this study were that both pet-owning groups reported a highly significant reduction in minor health problems during the first month following pet acquisition, and this effect was sustained in dog owners.

The pet-owning groups also showed significant improvements in psychological well-being over the first 6 months and, in dog owners, this improvement was maintained (throughout the duration of the study) 10 months. Dog owners underwent an improvement in self-esteem and were less afraid of being victims of crime. They got considerable physical exercise in the form of dog walking, and this effect continued throughout the period of study. The overall suggestion of these findings is that pet ownership can have a positive effect on human health and behavior, and that, in some cases, these effects are relatively long lasting (Serpell, 1990).

The current and projected demand by the elderly for health care services prompted Siegel (1990) to study physician utilization behavior. It is widely accepted that factors in addition to physical health status influence decisions to use medical services. Mechanic's study (as cited in Siegel, 1990) concluded that stressful life events which are intertwined with psychological distress contribute to higher utilization rates because a person undergoing stress pays greater attention to bodily symptoms and finds them more disturbing.

Results of this study suggest that pet ownership influenced physician utilization behavior of the elderly. Pets also appear to help their owners in times of stress. The accumulation of stressful events was associated with increased physician contacts for respondents without pets; however, this association did not emerge for pet owners. Data revealed that owning a dog provided a stress buffer, whereas owning other types of pets did not. Benefits associated with dog ownership included the companionship functions of talking and spending more time outdoors which might be either a consequence or contributor of increased physical or mental vigor. In addition, dogs provided a sense of security that was perceived by the study population as a benefit that far outweighed any cost of ownership (Siegel, 1990).

The unique relationship between humans and animals and its implications for health care has generated so much interest that many organizations, university studies, and governmental task forces have been formed to explore the potential benefits. One of the largest is the Delta Society, an organization formed in 1977. It has been responsible for compiling much of the scientific research that has been done worldwide. This organization is composed of approximately 1,500 members, 20% of which belong to the health care field (Nancy Kedward, personal communication, March 6, 1996). The objectives of this organization include:

- Promoting study and research relative to human-animal interactions.
- Establishing an interdisciplinary approach to human-animal interactions and increasing the awareness of the significance of these interactions among health and social care professionals.
- Assessing the role of animal companionship in society and studying the effect of human-companion animal bonds on the mental and physical well-being of people.

The Delta Society also sponsors a program called "Pet Partners" that enables and encourages people to share their pets

with patients in nursing homes, hospitals, and children's facilities throughout the United States. These volunteers and their pets bring joy, friendship, and healing to over 350,000 people each year. In January and February of 1996, the Delta Society received over 2,000 phone calls inquiring about this special program which demonstrates the growing interest in this area (Nancy Kedward, personal communication, March 6, 1996).

Also in 1977, the Veterinary School at the University of Pennsylvania created a Center for the Interaction of Animals and Society that is dedicated to conducting research on interaction between people and companion animals. This center has brought together scholars from many disciplines within the university to examine the meaning of animal companionship. These scientists combined controlled behavioral observation with physiological measurements and epidemiological techniques for studying health and disease (Beck & Katcher, 1983). From this collaboration came new knowledge about people and animals.

In 1987, the National Institutes of Health (NIH) sponsored an extensive workshop to generate increased awareness of the potential importance of human-animal interaction and to involve a variety of scientists in interdisciplinary collaborative research. Principal sponsors were the NIH Division of Research Services and the Office of Medical Applications of Research. Other sponsors included the NIH Clinical Center; National Center for Nursing Research; National Heart, Lung, and Blood Institute; National Institute on Aging; National Institute of Child Health and Human Development; Centers for Disease Control and the Food and Drug Administration.

Experts explored topics such as the role of pets in cardiovascular health, child development, the geriatric population, and in social and therapeutic contexts. Out of these workshops, many promising directions for research relating to potential health benefits of companion animals were suggested. As a group, they proposed that further assessment is indicated to identify populations that would most benefit from animal companionship. Research is needed to explore what specific relationships between humans and animals produce effects of sufficient magnitude and duration to be of lasting benefit. Areas to target would include cardiovascular health, developmental processes, and psychosocial issues. As far as cardiovascular health is concerned, they suggested that aggressive studies be conducted concerning the effect of "bonding" between person and pet on blood pressure. They also suggested the development of prospective studies to gauge the "protective" effect pets have on magnitude and longevity in postmyocardial infarction. Because of the rapidly increasing size of the elderly population, they recommended that additional studies focus on this population and that the goal should be to develop a unifying theoretical base to allow for generalizability. In addition, inclusion of animal ownership patterns should be part of large national epidemiological studies in both ongoing and future surveys. They thought that consideration of pet exposure as a possible "protective" factor is a cost-effective idea whose time has come.

In the final presentation of the NIH Technology Assessment workshop, it was proposed that, "All future studies of human health should consider the presence or absence of a pet in the home and, perhaps the nature of the relationship with the pet, as a significant variable. No future study of human health should be considered comprehensive if the animals with which they share their lives are not included" (Rowan & Beck, 1994, p. 85).

Implementation in Health Care

During the same period that controlled scientific studies floundered, the amount of anecdotal and descriptive reports flourished. These reports confirmed what many knew all along, our pets make us feel good. Animal companionship provides love, affection, and a sense of being needed. Out of this realization several different types of programs have evolved to take advantage of the positive effect animals have on people in the acute-care setting.

The most simplistic is "pet visitation." In this intervention, the aim is to foster rapport and initiate communication . It is often effective in increasing patient responsiveness, giving patients a pleasurable experience, enhancing the treatment milieu, and helping to keep patients in touch with reality (Barba, 1995). In this type of intervention, the animal initiates contact with patients and the direction of the visit is determined by a patient's needs at that particular time. Social interaction is often increased using the animal as a topic for conversation. This therapeutic modality has been utilized with great success in psychological counseling for years, as well as in long-term care facilities. A study by Zisselman, Rovner, Shmuely, & Ferrie (1996) evaluated the effects of pet visitation on geriatric psychiatry inpatients. While results were not significant, many limitations of the study were recognized. Primarily, there are no accepted standards for administering a pet visitation program. Suggestions for future research included elaborating on the length and frequency of the sessions, group sizes, kinds of patients, and types of animals used in the intervention.

Out of pet visitation Animal Assisted Therapy (AAT) was developed. AAT is a goal-directed intervention in which an animal meeting specific criteria is an integral part of the treatment process. AAT is delivered or directed by a health or human-services provider. AAT is designed to promote improvement in human physical, social, emotional, and cognitive functioning. AAT is provided in a variety of group or individual settings, and is documented and evaluated (Delta Society, 1991). AAT exercises are purposeful, individually goal-oriented, and can provide multiple benefits that include but are not limited to: fine and gross motor skills; verbal, tactile, and auditory stimulation; verbalization skills; ambulation and equilibrium; instruction following and decision making; memory recall; and concentrated and extended attention span.

The Rehabilitation Unit at Duke University Medical Center, North Carolina, has begun a pilot program for AAT. The program's goals are to provide patients with opportunities to:

- Improve stress management skills through a constructive leisure activity.
- Improve coping skills by providing an activity which focuses attention on the pets and away from their own illnesses.

- Assist with adjusting to life changes by providing an opportunity to reminisce and share about previous experiences with pets.
- Increase motor skills through activities that challenge dynamic sitting or standing balance; increase the use of upper extremities through games, petting, and brushing, and improve endurance and time spent out of bed.
- Improve cognitive skills by increasing awareness and interaction with their environment—improving concentration, attention, and decreasing distractibility.

Francesca Monachino and Betsy Roy are the group leaders for this program and have expressed great enthusiasm about benefits to patients. Each interaction is goal directed and incorporated into the long term evaluation of the rehabilitation process.

AAT programs not only benefit patients but also staff. Paws Across Texas (PAT), a nonprofit organization in Fort Worth, whose purpose is to provide trained volunteers and privately-owned companion dogs for AAT programs, conducted a pilot program to discover potential difficulties and to maximize effectiveness among patient and staff (Williams, 1990). No negatives were expressed toward the PAT program. Suggestions for improvement centered on patient and staff requests to implement the program more widely and more frequently in the hospital.

In an article by Carmack and Fila (1989) the therapeutic effect of animals on staff was specifically addressed. A nurse manager said, "Staff have verbalized the benefits in several different ways. First, it enables them to maximize their time with patients. Having a shared experience helps break down some of the barriers inherent in the nurse-patient relationship. Some staff expressed initial concerns about the value of the program, but as these nurses were able to experience animal visits with their patients, they expressed support and even requested an increase in frequency. A second major benefit to the staff has been the effect on their own stress level. Staff have been able to determine that when the unit has been extremely busy with high-acuity levels and high census, the stress on the unit, and subsequently on them, felt decreased and more tolerable when the animals were present" (p. 100).

Bringing animals to an acute-care facility is not without opposition. One of the biggest concerns is the potential for transmitting infectious disease. Dr. Sandra Wallace, an infectious disease specialist and chairwoman of the Infection Control Committee at Huntington Memorial Hospital, Pasadena, California, reports that thoroughly screened dogs in controlled programs may interact with hospital patients without transmitting zoonotic infections or serving as transient carriers of nosocomial pathogens. Huntington Memorial Hospital has been host to 3,281 dog visits to 1,690 patients over 5 years. In that time no zoonotic infections have been reported (Huntington Memorial Hospital, 1992).

Specific guidelines have been developed by hospitals involved with AAT programs. Following standards set forth by the Delta Society and modeled after the PAT program at Huntington Memorial Hospital, Pullman Memorial Hospital, in Pullman, Washington, has developed a policy, protocol, and procedure manual that clearly outlines criteria necessary for AAT visits. Protocols for health and grooming of dogs is addressed along with policies for patient selection and handler responsibilities. Dogs in the program are carefully screened by a veterinarian for any physical or behavioral problems. A primary concern is patient exposure to animal feces, saliva, blood, or parasites. Stool samples to screen for any enteric pathogens and parasites are taken on entry to the program and on an ongoing basis thereafter. Patients and staff members must wash their hands after petting the dogs. In addition, the dogs never ride the elevators—thus avoiding encounters with people who may be allergic or phobic (Huntington Memorial Hospital, 1992).

For protection of the animals, and to eliminate their potential role as vectors for disease, visits are not allowed with patients in respiratory isolation or patients isolated with any of the following infections: tuberculosis, *salmonella*, *campylobacter*, *shigella*, group A *streptococcus*, *staph. aureus*, viral hepatitis, ringworm, *giardia*, amebiasis or MRSA. Patients who have had or will have a splenectomy are also kept from the animals. New findings indicate that these patients may be susceptible to DF 2, a common flora in cats and dogs (PMH-AAT Program protocols and Procedures). In general, the greater the perceived risk to the patient, the more barriers placed between him and the animal. Of more concern is the volunteer. It is more likely that a dog's owner will bring in flu or cold germs than for a dog to transmit infection (Huntington Memorial Hospital, 1992). Following strict guidelines are essential for the continued success of AAT. Untrained animals and unprepared animal handlers comprise the greatest risk and should never be allowed to participate in these programs. If a well-informed comprehensive approach is taken, the benefits are well worth the minimal risks.

Conclusions

Nurses have struggled to define and legitimize caring and to link it directly to improved health care outcomes. Proponents of Animal Assisted Therapy have also struggled to quantify the positive effects of the human-animal bonds. Research has shown that companion animals can improve emotional and physical well-being. Benefits include improvement in self-esteem, increased social interaction, decreased stress responses, decreased blood pressure and heart rate, and enhanced sense of security.

As the field of psychoneuroimmunology gains momentum, relationships between stress and illness will be better understood. Researchers have already demonstrated the effect of stress on biochemical changes in the body. Elevated levels of glucocorticoids and catecholamines and the diminished activity of one or more types of white blood cells produced by stressors on the body, have been linked to decreased immune function (Beare & Myers, 1994).Alternative healing and health promotional approaches deserve closer scrutiny. The concept of human-animal bonding and that relationship to stress reduction is one of the many therapeutic modalities that nursing research should explore. Other questions to be explored in future research should focus on how an animal can alter perceptions of patients to their environment. Could patient motivation to get outside and throw a ball or go for a walk be increased when patients have dogs? Could we further decrease stress by providing a focus

away from a medical procedure such as drawing blood or changing a dressing? Would the presence of a dog create a more balanced relationship between a nurse and patient to foster an equal partnership in care?

Now nurses should further investigate ways in which this intervention can be appropriately used. In the 1990 environment of health care reform, the demand is that we contain cost yet provide high-quality care. Professional nurses are moving into the community to care for patients in their homes because of the decreased length of stay in hospitals. In addition, the population is aging and we are faced with an increase of people living with chronic illnesses. We should be asking ourselves how we can apply knowledge to these situations.

There are many appropriate situations in which a therapy dog could accompany a nurse. An animal is not judgmental when giving love. You do not have to earn its love. Animals simply do not care who you were before, or what you will become. They accept who you are now. This may be exactly what someone needs to promote self-esteem.

Without future studies to demonstrate that animal contact has significant health benefits, there may be trouble accepting animals as more than "therapeutic clowns" (Beck & Katcher, 1983). Nurses are in a perfect position to pursue AAT research. Our philosophy embraces total well-being. Animal Assisted Therapy combines both the physical and emotional components of health. We have just reviewed evidence that links the physiologic benefits to the psychological effects of animal companionship.

Jan Loney, a noted psychologist has this to say:

> Not only is the pet safe and attractive, it has the capacity to modify the identity of the environment and other people in the environment. The therapist who comes with the pet becomes less dangerous, and the patient can reveal more of himself. Just as the therapist becomes less forbidding and more human, the patient with the pet is perceived by others as more human, and hence less "sick" and more treatable. This in turn becomes a self-fulfilling prophecy. (Beck & Katcher, 1983, p. 160)

Substituting "nurse" for "therapist," one begins to see how we can apply the science of nursing to the art of practice.

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