

Review

An exploration of the potential benefits of pet-facilitated therapy

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Summary

- There is mounting evidence to suggest that those who keep pets are likely to benefit from various improvements in health.
- Despite founders of nursing such as Florence Nightingale advocating the importance of animals within the care environment, their integration into hospitals and other health care settings has been slow.
- The literature on animal-induced health benefits is reviewed and the conclusion is drawn that the potential benefits of pet therapy are considerable.
- It is suggested that nurses can assume an active role in advocating ward pet or pet-visiting schemes.

Keywords: health benefits, pet-facilitated therapy, social support, stress.

Introduction

Domesticated animals have played a significant role in the life of humans for thousands of years. At first it was believed that the earliest record of an association between dogs and humans was 12 000 years old (Davis & Valla, 1978). Later discoveries have revealed that dogs may have been domesticated by native American Indians over 30 000 years ago (Canby, 1979).

Pets can be found in over 60% of households (Marx *et al.*, 1988) and most people will own a pet at some time during their lives (Gammonley, 1991). In the UK, we share our homes with 29.5 million pet fish, 7.23 million cats, 6.55 million dogs and 1.42 million rabbits (Pet Food

Manufacturers' Association, 1996). Such a situation seems to reinforce the position that 'close relationships link all living things in the environment, but the forces that connect people and animals are especially strong and enduring' (Bustad, 1980; p. 4).

ANIMALS IN SOCIETY

In recent years, an interest in the significance of what is now termed the 'human–animal bond' (Yoxall & Yoxall, 1979) has developed. One explanation for this arousal is the 'green revolution' (McCulloch, 1984), in which society is trying to re-establish links with nature, including plants and animals. Francis (1976) highlighted that, amongst 500 people in hospitals, gaols, nursing and residential homes, the most frequently missed 'thing' was a pet animal (for

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those who had previously owned pets). Voith (1985) identified that 99% of owners consider their pet to be a family member.

BONDING AND ATTACHMENT

Many reasons have been cited for the development of reciprocal attachment between animals and humans (McCulloch, 1984). This attachment can be interpreted as a friendly, affectionate, companionable interaction between an animal and a human (Messent & Serpell, 1981) which has potential benefits. Weiss (1982) highlighted that attachment is one of the social provisions that is vital for the maintenance of wellbeing. This can be obtained through a variety of relationships with individuals or animals (Sable, 1995), the attachment to the latter being mutual and reciprocal but less complicated than human-human interactions (Rynearson, 1978). A pet is usually chosen for its ability to initiate and respond to attachment, and pet animals are currently bred to stimulate these attraction and attachment responses in humans. Humans are predisposed to become attached to other humans, especially children, and if animals exhibit childlike behaviours and features this attachment is understandable (Voith, 1985).

Pet-facilitated therapy

Pet-facilitated therapy (PFT), or animal-assisted therapy, has been described as an applied science, using animals to solve human problems (Gammonley, 1991). It involves the introduction of an animal into an individual's or group's immediate surroundings, with therapeutic intent. Such a therapeutic intervention can be an interdisciplinary initiative (Barba, 1995), with nurses playing a central facilitative role.

HISTORY OF PET-FACILITATED THERAPY

Levison (1969) began to promote the health-inducing benefits of human-animal interaction in the 1960s, but there is earlier evidence of animals being used for therapeutic purposes. In the 9th century, family care involving animals was given to handicapped people in Gheel, Belgium (Bustad & Hines, 1984). The York Retreat, an asylum, replaced restraint with love, kindness, understanding, trust and animals during the 1790s (Jones, 1985). Animals were used in a home for epileptics in Germany in the 1800s (McCulloch, 1982) and in a World War II convalescent hospital (Netting *et al.*, 1987). Currently, there are some health care establishments that have visiting animal programmes or residential animals

and societies have been set up to promote interest in this area. It has been suggested that animals can make a hospital ward appear less antiseptic and more natural (Barba, 1995) and that they can help preserve an element of normality in an individual's life (Hagggar, 1992).

THE BENEFITS OF PET-FACILITATED THERAPY

In order to explore the evidence that would support, or otherwise, the use of pet-facilitated therapy, a computerized and a manual search of the English language nursing, medical, social work, veterinary science and public health literature were performed. Using the key words pets, pet therapy, pet-facilitated therapy and companion animals, a wealth of published material in the form of position papers, case studies and various experimental designs was revealed, and formed the basis of a detailed and systematic review (Brodie, 1997). The perceived benefits of pet-facilitated therapy are presented here. To complement this paper, a review of the disadvantages of pet-facilitated therapy (in preparation) will appear later.

Pets can be used to stimulate awareness and interaction, and provide pleasure (Kalfon, 1991). Fila (1991) describes a case study of an elderly man who was admitted to hospital for disfiguring surgery and became withdrawn and angry. Interactions with a visiting dog and guinea pig allowed him to 'reconnect' with his prehospitalized life. From being depressed and angry, he became happy and relaxed.

A detailed but small scale study by Francis *et al.* (1985) reported improved social interaction, psychosocial function, life satisfaction, social competence and psychological well-being, and reduced depression, amongst a group of 40 adult home residents who had weekly visits from puppies. It is thought that pets can form a non-threatening reassuring, non-verbal and tactile comfort, that may help break a cycle of loneliness, hopelessness and social withdrawal (Michaels, 1982) and that interventions to change the environment in order to reduce isolation and loneliness are important (Kalfon, 1991).

Katcher & Friedmann (1980) highlighted nine healthful components which pets can help develop. These included providing companionship and pleasurable activity, facilitating exercise, play and laughter, being something to care for and a source of consistency, allowing feelings of security, being a comfort to touch and pleasurable to watch. The literature also suggests that pet animals perform other roles. For example, animals provide a link with reality which can enhance emotional stability (Frank, 1984), they can become the receptive partner in a relationship of mutual trust that promotes self-awareness (Heiman, 1965) and something with whom a non-judge-

mental acceptance is possible (Levison, 1972). Frank (1984; p. 30) stated that an animal can be a 'companion, friend, servant, admirer, confidante, toy, team-mate, slave, scapegoat, mirror, trustee, or defender'.

Other potential animal roles include: being an outlet for one's ancient primate grooming urges (Searles, 1960), improving the owner's sense of well-being (Rowan & Beck, 1994), facilitating humour (McMullough, 1981) and an excuse for idle play (Smith, 1983). Francis (1981; p. 369) summarized reported pet uses and benefits by stating that 'domesticated animals offer us unconditional affection, constant companionship and an ever-present ear, almost too much to believe in a world of apparently increasing alienation, fragmentation and sterile technology'.

Most of these reasons have been cited on many occasions since (Hibell, 1987; Gammonley, 1991; Rosenkoetter, 1991), but perhaps two of the most important roles that animals can play are those of companion and something to care for (Mugford, 1980).

PHYSICAL BENEFITS

In a carefully controlled study, Friedmann *et al.* (1980) tested the hypothesis that the absence of significant companions may interfere with people's ability to maintain normal activity levels and healthy behaviours, which may in turn influence the progress of illness. The effect of social isolation or support upon the survival of 96 patients who were hospitalized with a diagnosis of myocardial infarction or angina pectoris was examined. After one year, only 92 subjects could be traced, and of these 14 had died, giving an 84% survival rate. Among the 92 patients, three of the 53 patients (6%) who had one or more pets had died, and 11 of the 39 patients (28%) who did not have pets had died. The researchers concluded that dog ownership could be a measure of physical status affecting health, due to the exercise input that their care required, so another comparison was made between non-pet owners and people owning pets other than dogs. All of the 10 who owned pets other than dogs survived. They found that the relationship between pet ownership and survival does not depend upon the sex or physiological status of the patient, but that pet ownership was a significant variable related to one year survival irrespective of myocardial infarction severity or type of pet. These findings have been confirmed in a later study (Reade, 1995).

Anderson (1992) compared risk factors for cardiovascular disease amongst pet owners and non-pet owners. The blood pressure, plasma cholesterol and triglyceride values of 5741 pet owners and non pet owners who were being screened at a cardiovascular disease risk clinic were

compared. Pet owners had significantly lower systolic blood pressure and plasma triglycerides than non-pet owners. Male pet owners also had lower cholesterol levels despite having similar body mass index, smoking habits and socioeconomic status. Pet owners reported taking more exercise but they also ate more meat and take-away foods. It was concluded that pet ownership can reduce cardiovascular risk. However, despite the large sample size employed in this study, these results should be treated with caution. Factors such as pet owners being from a higher socio-economic group and experiencing lower cardiovascular risk (McMichael, 1985) may have produced the results that were obtained. Anderson (1992) addressed this issue by using participant groups from comparable socio-economic classes, measured by family income and levels of education. Pet owners in this study engaged in healthy and unhealthy lifestyles, yet investigations showed they still had lower blood pressure and plasma levels than non-pet owners. This mixed behaviour would seem to indicate that pet ownership can be a variable for predicting the risk of cardiovascular disease.

In one randomized controlled trial, Katcher (1981) investigated the potential short-term physiological effects of animal interaction on humans. Pet owning subjects had statistically significant decreased blood pressure when they interacted, talked and petted with their own dog when compared with a resting control group and with individuals who read aloud. The failure to identify inclusion criteria and other aspects of methodological procedures makes this study impossible to replicate exactly; however, the link between animal interactions and its effect on blood pressure has been investigated elsewhere. Baun *et al.* (1984) compared the physiologic effects of petting a known dog with whom a bond has been formed against the benefits of unbonded dog interaction and quiet reading. A sample of 24 read quietly, petted an unbonded dog and petted the bonded dog in a randomly assigned order. Blood pressure, heart and respiration rate were recorded every three minutes throughout the nine minute interaction. It was found that petting a bonded dog significantly decreased systolic and diastolic blood pressure and the interaction was as effective as sitting reading. In a small scale study ($n = 10$), of questionable generalizability, Thoma (1984) measured skin temperature, muscle tension, blood pressure and heart rate amongst those petting a bonded dog or an unbonded dog. There was a significant increase in skin temperature and decrease in muscle tension for the group that petted a bonded dog, but there were no significant differences in blood pressure and heart rate between petting bonded and unbonded dogs. These studies suggest that petting a dog may have relaxing

effects, as shown by decreases in blood pressure and increases in peripheral skin temperatures.

Gaydos & Farnham (1988) replicated the Baun *et al.* (1984) study. However, their research did not support the original study's findings: reading was found to be the intervention that induced greater levels of relaxation. Oetting (1985) studied the association between petting a companion dog, practising a relaxation technique and a combination of the two. No statistical differences were found between any of the treatments in changes in blood pressure, heart rate or peripheral skin temperature.

GENERAL HEALTH BENEFITS

In addition to these studies, others have investigated the benefits to general health. For example, Serpell (1991) examined changes in behaviour and health status amongst 71 adults who had acquired a new pet dog or cat and 26 non pet owners who acted as controls. Data were collected on health complaints, number and distance of any recreational walks taken and on general health. The groups did not differ significantly with regard to demographic variables; however, dog owners reported a highly significant decrease in minor health problems, improved general health and an increase in the number of walks taken. Cat owners reported initial positive changes to general health but these changes disappeared after six months. The link between dog owners' increased recreational walks and improved health was explored but no statistically significant associations were found.

Siegel (1993) tested the hypothesis that pet owners would report fewer doctor contacts than non pet owners even during times of stress. The physician utilization behaviour of 938 Medicare enrollees was studied for a year. It was found that health status, income and pet ownership were major determinants of contact with the doctor, but pet owners made fewer visits to the doctor. Indications that pet ownership can influence social and psychological processes rather than just physical health arise, and the study supports the reported importance of social support in buffering potentially negative consequences of life stresses (Cohen & Syme, 1985).

A sample of 1232 households with a resident over 65 was studied using a cross-sectional rather than the preferable longitudinal design in order to investigate pet ownership and attachment as supportive factors in the health of older people (Garrity *et al.*, 1989). No significant differences were found in physical health between pet owners and non pet owners. Those who had feelings of strong attachment towards their pets were found to experience lower levels of depression, but this was not a

uniform finding. Those with low human confidante support reported lower depression levels when compared to less attached elders with low confidante support. No correlation was found amongst pet owners with high human support regardless of attachment to their pets. This indicates that pet factors may have only a protective physical health role under certain circumstances, for example when people have few human confidantes. In conflict with these results, Akiyama *et al.* (1987) found that recently widowed pet owners experienced fewer physical and psychophysical symptoms of ill health than non pet owners and that depression levels were not related to the strength of pet attachment.

SOCIAL BENEFITS

Social support has an important influence upon one's health. Lynch (1977) wrote that individuals who lack companions may be lacking an important antidote to stress, and this may affect their physical health. Social support promotes health through buffering adverse stressful life events and producing fewer stressful challenges (House, 1981; Broadhead *et al.*, 1983; Cohen & Syme, 1985). It is significant therefore, that pet animals are advocated as a source of companionship, similar to the strong attachment bonds that develop amongst close family and friends (Gerstman, 1987).

Cox & Ford (1964), Kidd & Feldman (1981) and Lynch (1977) have all reported that married people suffer fewer age-specific deaths and diseases, and have fewer emotional difficulties, than those who are single, widowed or divorced. The lack of close relationships and social support is a possible explanation for this. Goldmeier (1986) aimed to discover whether animals could fill the gap created by absent humans. One hundred and forty-four elderly participants, living alone, living with others, living alone with pets or living with others and pets, were assessed. The groups were demographically similar and results showed that pets did not make a difference to morale amongst those who lived with others but that they improved the morale of those living alone. Having a pet also improved loneliness dissatisfaction scores, but this study concludes that pet ownership must be seen in the context of the people who share the older person's life (Goldmeier, 1986). For example, pets are more significant for those who have fewer companions, a suggestion that has been made elsewhere (Garrity *et al.*, 1989).

The correlation between decreased loneliness and pet ownership has also been recognized (Levison, 1978; Muschel, 1984; Cusak, 1988; Kidd & Kidd, 1994). This might be because pets facilitate interactions between

humans (Corson *et al.*, 1975; Mugford & McComisky, 1975; Brickel & Brickel, 1980; Robb *et al.*, 1980; Lund, 1984; Elliot & Milne, 1991).

One longitudinal research study (Mugford & McComisky, 1975) explored the possible effects of pet ownership upon non-institutionalized pensioners. A 30-item questionnaire, investigating attitudes towards self, others, the environment and physical and psychological health, was administered to a sample which was divided into five groups. Groups one and two owned televisions, three and four did not, and five had an equal number of television owners and non-owners. Members of groups one and three were given a budgerigar and two and four were given pot plants. The researchers found that the presence of a budgerigar produced positive changes in attitude regardless of television ownership and the bird became a focal point in conversation, a social lubricant.

Sam and Elizabeth Corson were animated by Levison's early reports on PFT (Levison, 1969) and investigated the feasibility of establishing pet-facilitated programmes. They worked with 50 withdrawn and uncommunicative patients and facilitated interaction between the subjects and selected animals. Three patients did not accept the animal but improvement was witnessed in the others. These included development of self-respect, independence and self confidence as well as promotion of social interaction amongst patients, staff and a wider circle (Corson & Corson, 1980).

Robb *et al.* (1980) aimed to explore the impact of inanimate and animate external stimuli on social behaviour of a chronically ill, predominantly aged population in long-term care. Observations of verbalization, smiling, looking, opening eyes and leaning forward were made during the presentation of a wine bottle, a plant, a puppy or when there was no stimulus introduced. The highest number of social behaviours per resident occurred when the puppy was present. During this time, hostility and repetitive statements ceased and the puppy proved to be a social catalyst, inducing more frequent verbalizations. Others have reported similar results (Fields, 1977; Newberry, 1985; Kalfon, 1991).

Most studies of human/animal interactions have used older adults as their target population; however the utility of animals in other societal groups has also been explored. Guttman *et al.* (1985), Levison (1969) and Mugford (1980) all acknowledge the importance of animals in the lives and socialization of children. Levison (1969) argued that caring for a pet during childhood has numerous benefits, including the development of sensitivity towards the feelings and attitudes of others, increased tolerance, self-acceptance and self-control, as well as an introduction

to the reality of life and death. The animal acts as socialiser, as well as a constant source of security and companionship which enhances emotional development.

Another group who experience increased interaction levels when there are animals present are people with disabilities. Hart (1987), Mader *et al.* (1989) and Zee (1983) all reported that visually impaired people with guide dogs experience more conversations and interactions than those using another type of mobility aid, such as a cane. The animal appears to dissolve any barriers which normally inhibit interaction. This is a continuation of Lockwood's (1983) work exploring whether the presence of an animal altered the perception of another person. His study involved asking students to describe the mood depicted in a series of drawings of individuals and groups in various interactions and some of the pictures included animals. It was found that the pictures containing animals were perceived more positively and the people in the interaction were described as friendlier, more relaxed and less threatening. It can be concluded that animals promote positive images which in turn facilitate interactions. Animals have also been known to ease family pressure and act as a buffer during conflict (Gerstman, 1987) and to enhance social environments (Brickel & Brickel, 1980).

PSYCHOLOGICAL IMPROVEMENTS INDUCED BY ANIMALS

Many studies have explored the psychological impact of animals. For example, subsequent to the work of Friedmann *et al.* (1980), Katcher (1981) found that subjects who were sitting and resting or greeting their own pet dog had lower blood pressure readings (implying a greater state of relaxation) than those who were reading aloud to another person or were talking to a researcher. In a further study of the relaxation effects of pet animals, Katcher *et al.* (1983) explored the effects of animals which could not be touched upon blood pressure and relaxation, as stroking itself had been reported the decrease blood pressure (Montagu, 1978). Fifteen hypertensives and 20 normotensives were asked to watch a blank wall for 20 min whilst baseline blood pressure was established. Their concentration was then shifted to an aquarium filled with brightly coloured fish. Significant decreases in blood pressure were found in both groups. Reading aloud after watching the tank elicited an increase in blood pressure, but not a return to the initial levels. This study would seem to indicate that the fish were having a protective buffering effect against future stressors.

Cole & Gawlinski (1995) explored the value of aquariums in promoting relaxation, measuring the stress level of

patients awaiting heart transplants. A tank containing four brightly coloured fish was placed in each patient's room. Patient stress levels, blood pressure and heart rate were measured. The results of this study, which was incompletely reported (even basic information such as sample size and statistical results were not given), seemed to indicate that the fish became a positive visual stimulus which instilled a sense of control, and provided distraction from the hospital and a vehicle for relaxation.

Bolin (1987), Fila (1991), Francis *et al.* (1985), Garrity *et al.* (1989), McMulloch (1981), Salmon & Salmon (1981) and Siegel (1990) have highlighted significant inverse relationships between pet ownership and depression, while others have reported improved self-esteem (Mugford & McComisky, 1975; Delafield, 1976; Robb & Stegman, 1983) and a decrease in irritable behaviour (Zisselman, 1996). Fila (1991) exposed a patient who felt hopeless and had become depressed and withdrawn to a guinea pig and witnessed laughter, talking and a more relaxed state.

Although the majority of the literature available on the effects of pets shows positive results, several studies have found no relationship between health improvement and pet ownership. Lago *et al.* (1983) could find no link between pet ownership and improved morale and Lawton *et al.* (1984) were unable to establish a relationship between pet ownership and improved psychological health. Cameron & Matterson (1972), Friedmann *et al.* (1984) and Robb & Stegman (1983) concluded that there was no association between pet ownership and improved psychological health. Friedmann *et al.* (1984) compared psychological status among 309 pet-owning and non pet-owning students. They were assessed for anxiety, depression, type A behaviour, androgyny, sensation-seeking, mood, resting blood pressure and health status, and were categorized into current, former or never being a pet owner. This study produced no significant evidence indicating that there might be psychological and physiological differences between the groups. Robb & Stegman (1983) investigated the possible association between companion animals and enhanced coping abilities. Measures of morale, locus of control, social interaction, mental status, psychological symptoms, disease, medication and physical functional abilities were taken from a largely male sample of 56, and the notion of health related benefits from pet ownership was rejected as a result of the findings.

SPECIAL GROUP BENEFITS

Along with these physical, social, and psychological benefits amongst the general population, animals have been reported to have positive effects upon smaller, more

selective groups such as those with sexual problems (Pichel & Hart, 1989), those who are considered infertile (Blenner, 1991), prisoners (Arkow, 1984; Lee, 1976), the abused (Ascione, 1992), people suffering terminal illness (Muschel, 1984) and individuals classified as mentally handicapped (Davis, 1986). Animals can have a positive impact on violent children (Katcher, 1994) and upon school truancy rates (The Delta Society, 1995).

Conclusion

It is apparent that there are frequent methodological difficulties in the study of pet-facilitated therapy, often caused by the complexity of the subject area, but studies are also confounded by aspects of poor design, such as small sample size and failure to randomise. Some conflicting results have been produced, but in general research studies and other published material would seem to tentatively indicate that human/pet animal interaction can have positive effects on human health. Improvements in physical health, reduced risk of cardiac problems, lowered blood pressure and general overall health have been seen. In addition, animals seem to improve social interactions and promote social happiness and harmony for the general population as well as for certain groups such as children and those with a disability. Decreased loneliness, improved morale and increased social interaction appear to result from interaction with animals. Psychological improvements have been noted amongst those interacting with animals and the conclusion can be drawn that the mere presence of animals can instigate higher levels of relaxation amongst their human companions. A positive correlation between decreased depression and socialization with companion animals has been yet to be proven and studies also exist that dismiss the link between pet ownership and improved psychological health. In general it may be justified to accept that those people who interact with pet animals may benefit from improved physical, psychological and social health experiences and animals can also provide specific benefits for special groups in society. Therefore, it is probably important that nurses and other health care professionals are aware of the role that companion animals can play in promoting optimal holistic health.

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