



Sally the Cat: A Resident of a Continuing Care Facility

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Abstract

During the past several decades, interest has grown in the contribution that animals make to the quality of life of older residents who live in continuing care facilities. These residents are typically over the age of 85 and have often co-existing acute and chronic health challenges. Explored through this paper are several salient issues specific to animal assisted interventions for older residents living in continuing care facilities. These include: the possible contribution of animals to residents' health and quality of life, the use of animal assisted interventions for older residents with dementia, problems associated with the use of live animals, the debate between the uses of live versus robotic animals, implications for clinical practice, and future directions.

Introduction

"A small pet is often an excellent companion for the sick, for long chronic cases especially" (Florence Nightingale, *Notes on Nursing*)

Sally, a small calico cat, is curled up on the lap of Mrs. Withers, who sits on a corner chair in the lounge of the continuing care facility. She purrs loudly as she is stroked. However, Mr. Chong, who just entered the lounge with his walker, prefers the pet visitation program and he waits for Mozart, a golden retriever to visit. He teases Mrs. Withers about her new friend. They talk to each other about pets they have had, sharing, and connecting with each other.

Older residents who reside in continuing care facilities are typically over the age of 85 and have co-occurring acute and chronic health problems, in addition to functional disabilities. Research has demonstrated that cognitive and social stimulation contributes to the physical, psychological, and social health of older residents [1]. Promoting quality of life, defined as a subjective feeling of wellbeing, for this population has led researchers to explore stimulation-focused programming, including animals assisted interventions. Over the past several decades, interest has grown in the contribution that animals make to the quality of life of older adults who reside in continuing care facilities.

Moving to a continuing care facility is often precipitated by the loss of a loved one, an inability to look after oneself, and declining health. For some this means the loss of a beloved pet too. These factors, combined with the institutional environment of continuing care facilities, mean that older residents often lose aspects of their lives that previously provided satisfaction and a sense of meaning for

them. They report feelings of helplessness, boredom, and isolation, increasing their risk of depression, loneliness and a lower quality of life [2,3]. Even when they have become accustomed to their new living environment, feelings of loneliness and isolation may persist as they find it difficult to form new relationships with the people around them [4]. One strategy to help alleviate these feelings is to offer animal-human interactions. These interventions can serve as a social icebreaker and can provide companionship, meaning, and comfort to older residents [5-7].

Explored through this paper are several salient issues specific to animal interventions for older residents in continuing care facilities. These include: the potential contribution that animals can potentially make to residents' quality of life, the use of animal assisted interventions for older residents with dementia, problems associated with the use of live animals, the debate between the use of live versus robotic animals, implications for direct clinical practice, and future directions. These issues were identified through conversations with long-term care staff about the introduction of a cat into the facility as a permanent resident. These conversations triggered a literature search to enhance administration and staff understanding of the implications of adopting "Sally".

Literature Search Strategy

The strategy involved peer-reviewed English language research studies (2000-2015). Data bases searched included Medline, CINHALL, PsychINFO, and Pubmed. The search terms included in a variety of combination "animals", "pets", "animatronic", "residents", "long term care", "nursing home", and "continuing care" were. The authors also conducted a manual search of the reference lists of the retrieved articles to determine whether other relevant articles fit the inclusion criteria. Fifty one studies were extracted from the search process. All abstracts were reviewed to determine if one or more of the identified issues had been examined. A matrix grid was used to facilitate data analysis. We did not aim to be comprehensive in our literature search, rather we paid particular attention to those articles in which the identified issues had been raised.

The Contribution of Live Animals to the Quality of Life of Older Residents

It was during the data analysis that the researchers identified that the studies fell under the domain of the biopsychosocial model of health. However, it was also evident that researchers selected one

sphere of the model in which to situate their research: (1) physiological effects; (2) psychological effects; and (3) social effects. Each of these outcomes will be briefly discussed.

Physiological

Animal contact, including pet ownership, appears to have beneficial effects on the physical health of older adults. A Swedish study with about 40,000 participants demonstrated that individuals who were physically active at a level sufficient to have a positive effect on their health more often owned a pet than those who were less active [8].

Clinical reports suggest that the stroking of an animal helped in reducing blood pressure [9-11]. Researchers have also identified that older pet owners as being less likely to use blood pressure medication [12]. However, Parslow and Jorm found no evidence that pet ownership was associated with cardiovascular health benefits [13]. Rather than pet owners had higher diastolic blood pressure than those without pets. They suggested that the increased diastolic health risk is linked to other hypertensive risk factors that are only indirectly associated with pets. Wright found that pet ownership was not independently associated with either blood pressure or hypertension [14].

From a literature review, Levine et al, concluded that pet ownership was associated with reduced cardiovascular disease risk factors [15]. Parker and colleagues revisited findings from studies reporting that pet ownership improves outcome following an admission for acute coronary syndrome [16]. Four hundred and twenty-four patients admitted to a cardiac unit completed questions regarding pet ownership. Rates of cardiac death and readmission were assessed 1 year following hospitalization. Pet ownership at baseline and cat ownership in particular was associated with increased cardiac morbidity and mortality in the year following admission for an acute coronary syndrome.

One area of human-animal interaction in which substantive investigation has been done is specific to dog walking. Dog walking may encourage older adults to take part in physical activities and to preserve their functionality. An analysis of a group of 545 Scottish participants, over the age of 65 years, identified that dog owners were more likely to report themselves at a level of physical activity than those who did not have dogs [17]. A later study of 884 participants found that frequent dog-walking had health benefits for older adults through increased physical activity and a heightened sense of community [18]. Similar findings were obtained by other researchers [19,20].

Psychological

Older people with dogs have been shown to have fewer symptoms of depression than those without dogs [21]. This is consistent with the findings of other researchers. Krause-Parello investigated the relationships among loneliness, pet attachment, human social support, and depressed mood in a cohort of 159 pet-owning older women [22]. Findings identified significant relationships between loneliness, pet attachment support, human social support, and depressed mood. The presence of an animal was a positive psychological factor for these older women. A more recent study of 830 older adults comparing pet owners with non-pet owners also confirmed that pet ownership may confer benefits for wellbeing-including attenuating feelings of loneliness [23].

Within the context of continuing care facilities, Colombo et al. and Le Roux and Kemp's studies confirmed that animal visits can make a positive difference in the depression levels of residents [7,24]. Kawamura, Niiyama, and Niiyama examined how a group of institutionalized older Japanese women perceived animal-assisted activity [25]. Participants developed interest in themselves, other residents, and their environment, due to the development of one-on-one relationships with dogs. Not all researchers had similar findings. Phelps, Miltenberger, Jens, and Wadson investigated the effects of weekly dog visits on depression scores, mood, and social interaction

in older residents of a continuing care facility [26]. Five residents participated in baseline assessments for 4–8 weeks and then received weekly dog visits for 6 weeks. Assessments, consisting of weekly observations of social interaction and paper and pencil measures of mood and depression, continued during the dog visits. Dog visits did not improve depression scores, mood, or social interaction. Residents reported that they enjoyed the visits. These findings indicate that dog visits do not always have therapeutic effects.

Other animals, beside dogs, contribute to psychological health. Johansson, Ahlström, and Jönsson explored older adults' experiences of living with companion animals after a stroke. They conducted interviews approximately 2 years after a stroke with 17 older participants [27]. An overarching theme arising from the content analysis of the data was the animals' contribution to a meaningful life. While DeSchraver and Riddick demonstrated that watching fish in aquariums reduced stress in older adults [28].

Social

A random survey of over three hundred older adults in Australia demonstrated that pet ownership provides opportunities for interactions between neighbours [29]. For older residents in continuing care facilities, animals may provide safe and shared experiences over which they can connect. Perelle and Granville investigated the effects of a pet program in a continuing care facility [30]. Residents showed an increase in social behaviours from pre-test to post-test; however, these behaviors declined four weeks after the program was completed. While, Bernstein, Friedman, and Malaspina reported that a comparison of observations of animal assisted therapy versus and non-animal recreational sessions in continuing care facilities showed that the animal involvement was linked to more frequent initiation and longer durations of conversations [6].

In reviewing the effects of animal focused interventions with older adults, some of the research is anecdotal or methodologically weak and should be viewed with caution [31]. There is a deficit of randomized control and multivariate studies, which consider other possible influences on health such as personal practices and cultural beliefs. It is unclear as to whether animal-human interactions can target specific challenges or whether they constitute a more global intervention for health and quality of life. Also, the benefits are contingent upon residents' like or dislike of animals, if so, they may not fully participate in the study. Ioannidis argued that conflicting results and failures to replicate are especially prevalent where there are few standardized tests to facilitate obtaining and comparing data across studies [32]. However, in a global statement, it is evident that animals can contribute to enhanced quality of life for older adults who reside in long-term care facilities.

The Use of Animal Interventions for Older Residents with Dementia

Older residents with dementia are a large segment of the continuing care population. Dementia is associated with challenging behaviours, such as agitation, wandering, and aggression [33]. Sellers reported upon the effects of animal assisted therapy on the social and agitated behaviours of four residents with dementia residing in a continuing care facility [34]. Residents were videotaped for 15 minutes each day of the study and two coders tallied the presence and frequency of the designated behaviours for each older adult. A statistically reliable difference in both the social behaviour the total agitated behaviours categories indicated that the behaviours targeted by the intervention were successfully modified. Similar findings were reported by Richeson [35], who explored the outcome(s) of an animal-assisted intervention on the agitated behaviours and social interactions of older residents with dementia. Fifteen residents participated in a daily animal therapy intervention for three weeks. Results showed a statistically significant decrease in agitated behaviours and a statistically significant increase in social interaction pre-test to post-test.

Other researchers have found similar positive outcomes. In a

group of Alzheimer residents, an animal assisted intervention was associated with a decrease in anxiety and sadness, and an increase in positive emotions and motor activity in comparison to a control activity [36]. Moretti and colleagues, evaluated the effects of pet therapy on cognitive function, mood and perceived quality of life on older adults affected by dementia, depression, and psychosis [37]. The Mini-Mental State Examination and the Geriatric Depression Scale were administered to 10 residents (pet group) and 11 controls (control group) together with a self-perceived quality-of-life questionnaire, before and after a 6 week pet therapy intervention. Both groups improved on both tools. Nordgren and Engström (2014)'s pilot study evaluated effects of animal interventions on the quality of life of residents in four Swedish facilities [38]. Nine residents completed the intervention which comprised 10 training sessions with a therapy dog team. Quality of life improved after the intervention. A different perspective on the benefit of animals was identified by Edwards and Beck who examined the influence of fish aquariums on the nutritional intake of 62 individuals with Alzheimer's disease [39]. Baseline nutritional data were obtained pre-test followed by a 2-week period when the aquariums were introduced. There was a significant increase in nutritional intake and in weight when the aquariums were introduced and during the 6-week post intervention period.

However, contradictory findings are evident in the literature. McCabe, Baun, Speich, and Agrawal, found no significant reduction in Alzheimer residents with long term exposure to a resident dog [40]. However, it is not known if the severity of the disease influenced the results. Motomura, Yagi, and Ohyama found that older residents could communicate with and observe the dogs, and the dogs could interact with the humans [41]. The results indicated no significant difference in the irritability scale, the depression scale, activity of daily living, and mini-mental state examination pre and post-tests. However, most residents had a good impression of dog therapy and all improved their apathetic state.

Problems associated with the Use of Live Animals

The use of real animals in continuing care facilities is not always practical or desirable. There are risks associated with the use of live animals in facilities. Animals may scratch or bite, may introduce parasites and infectious diseases into the facility, or may contribute to falls [42], and may require care considerations, in addition to staff responsibilities. Staff concerns regarding animals in facilities included the lack of clear administrative policies and inadequate articulation of the roles and responsibilities of staff in relation to animal care [43].

The possible transmission of disease from animals to people does exist, specifically zoonosis [44]. Loeffler and Lloyd reported that pets can be a potential reservoir for bacteria, which is of concern for older adults [45]. However, Brodie, Biley, and Shewring reported that the potential for harm does exist but can be mitigated [46], and no evidence of pet exposure increasing the risk for older residents of multiple drug resistance was found by Gandolfi-Decristophoris et al. [47].

The Debate between the Use of Live Versus Robotic Animals

Because animal assisted interventions have been successful with older residents, researchers have turned to creating companion robots that may provide similar benefits as live animals but require less care and are more hygienic. Banks, Willoughby, and Banks compared the ability of a living dog and a robotic dog to treat loneliness in older residents [48]. In comparison with a control group not receiving any dog visitations, both test groups had statistically significant improvement in their level of loneliness.

Research with companion animals in continuing care facilities has been conducted with the companion robot AIBO (a metallic doglike robot) and Paro (a white fluffy seal robot). Robot birds have also been described in the literature (Gatenby & Breazeal, -) as have cats [49].

This work has found that these companion robots can have the physiological effect of reducing stress hormones and can improve brain functioning [50]. Research has also found that companion robots have a positive psychological effect and can help forge social relationships [51]. It is assumed that therapeutic use of robotic pets improves mental and physical wellbeing of older adults with dementia and results in a more active interaction of the subjects with their environment [52]. Gustafsson, Svanberg, and Müllersdorf explored reactions of individuals with dementia to an interactive robotic cat and their relatives' and professional caregivers' experiences [49]. Findings indicated less agitated behaviour and better quality of life for individuals with dementia.

But how does the use of a companion robot compare to a live animal. Kramer and his colleagues concluded that "interaction between residents suffering from dementia and an AIBO were not only similar to those with a live dog, but, in some cases, were even more effective" (p. 56) [53].

Implication for Clinical Practice

Gerontological practitioners want to improve the health and quality of life of older residents in continuing care facilities. Animal intervention, both live and companion, appear to benefit residents. However, basic questions must be answered by facility administrators. Do they want to adopt a resident pet or to contract with an external visitation program? What are the resident specific expected outcomes if animal assisted interventions are implemented within the facility? What funding will be available to support use of animals within the facility?

An animal assisted intervention based on activities which are relevant to the older resident can potentially be expected to modify health status, even for residents with dementia, but must be based upon an assessment of the resident including past animal relationships. Some people have a phobia of animals and fear of domestic ones such as cats and dogs is common [54,55].

Staff require education specific to animal use and related administrative policies. The integration of human-animal interventions into staff orientation programs can occur with minimal effort. However, this content is essential for courses in human behaviour, gerontological practice, and domestic violence and can be provided in basic professional health care preparation programs [56]. At a program level, this would necessitate changes in academic curriculum through designated approval bodies. At a course level, gerontological educators might include companion animals in genograms and ecomaps; and in definitions of family, support systems, and environment. Another strategy might be to select required course reading that include companion animal themes in student reading lists, or incorporate how to assess human-animal assisted relationships into assessment courses.

Future Directions

Human-animal contact can influence psychological, physiological, and social parameters important for health and quality of life. To date, there has been relatively little research on how to create or alter the animal interactions for the betterment of older residents in continuing care facilities. Further research is needed. Questions might include: what are the links between objective characteristics of animals and perceptions of loneliness and / or lack of social interactions? How do animals act as a buffer against loneliness? Additionally, there is a need for replication of salient research findings to resolve discrepancies in the literature. While self-reporting and family reports of positive changes are often noted, there is a lack of substantive empirical evidence to support this work, nor is there information on how to use the animals to maximize health benefits.

Complementary therapies are sometimes used alongside conventional medical treatment. They are not meant to replace medical treatment, but may help to alleviate side effects or to improve a resident's quality of life. Animal intervention has to be placed within

the context of complementary therapies, which are now available to define its risks, and benefits. This too is an area where research is required.

Conclusion

Increases in life expectancy, increased risk for chronic illness or functional disability, and decreases in family size contribute to older adults being admitted into continuing care facilities. In brief, the majority of studies validate the conclusion that animals can offer support and comfort to those who are physically, psychologically, or socially compromised.

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