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Molly Cook
mollyscook@gmail.com

Sydney Busch
DePaul University, buschsm@miamioh.edu

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Health Benefits of Pet Ownership for Older Adults

Literature Review

DePaul University School of Nursing

Nursing Research

Molly Cook and Sydney Busch

Abstract

Background: Over the last few decades, life expectancy has increased causing a significant rise and rising number of senior citizens. This has resulted in greater demand and spending in healthcare for this growing population, due to, the increase risk for health problems that are associated with older age.

Objectives: The purpose of this literature review is to examine the health benefits of pet ownership for older adults. This study will provide information on what health benefits come with pet ownership, and how this can affect the elderly population.

Method: A computerized integrative review was conducted using various combinations of the following key words: *pet ownership, health benefits, elderly, elderly population, older adults, pet's, companionship, older population, dog ownership, physiological effects, mental health, physiological response, animal care, health risks*. The literature included in the review were written within the last fifteen years and were found by using PubMed, ProQuest, PsycInfo and CINAHL databases.

Results: Through examination of the literature, it was determined that there are various physical, emotional, and social benefits of pet ownership in the elderly. Specifically, pet ownership was found to increase physical activity, increase social interactions, and decrease loneliness.

Conclusions: This literature review suggests that pet ownership can improve the quality of life in the elderly population through increased physical and mental health.

Key Words: Pet ownership, health benefits, elderly, elderly population, older adults, pet's, companionship, older population, dog ownership, physiological effects, mental health

Introduction

Background and Significance

With rising life expectancy, partly due to health care improvements in the last few decades, and the baby boomer generation has begun to reach later life, the number of senior citizens in the United States has continually risen. In 2010, there were 40.3 million people aged 65 and older, accounting for 13% of the population. By 2050, it is projected that people over age 65 will comprise 20.9% of the population (West, Cole, Goodkind & He, 2014). Along with this rise in the older adult population, there has been an increased need for quality health care for these patients. With the increased risk for health problems later in life, health care costs also rise. In a 2010 report from the U.S. Centers for Medicare and Medicaid (2014), senior citizens accounted for 34% of healthcare-related spending. Healthcare spending amounted to \$18,424 per person aged 65 and older, which is triple what was spent on working-age individuals. With these high healthcare costs, it is useful to look at ways to improve the health and well-being of older adults/elderly outside of the hospital. Nontraditional low cost interventions such as animal therapy can assist with well-being.

Numerous studies have identified the benefits of interaction with animals, and these benefits are proven through the number of successful pet therapy programs throughout the country (Harvard Health Letter, 2016; Horowitz, 2010; Pikhartova, Bowling, & Victor, 2014; Stanely, Conwell, Bowen & Orden, 2013). In addition to psychiatric units, “Animal-Assisted Therapy (AAT) has also gained widespread support in other health care settings, including hospital critical care units and hospices” (Horowitz, 2010, p. 340). The most prevalent themes identified following an AAT session were the induction of relaxation, reduction of pain, positive change in attitude, and induction of sleepiness. Further, in patients hospitalized with heart

failure, AAT showed significantly improved hemodynamic measures, and reduced neurohormone levels and state anxiety, compared with baseline measures of patients (Horowitz, 2010). With the proven benefits of pet therapy in hospital, it's useful to look into how these benefits translate to long-term pet ownership rather than short sessions of pet therapy. In a 2013 study, it was suggested that dog and cat owners were less likely than non-pet owners to be obese, have a diagnosis of congestive heart failure, or report having arthritis (Utz, 2013). A study done at Harvard found taking care of a pet can provide the owner with a sense of purpose and a feeling of validation. "When you feel securely attached to this living being, there are biological brain effects that reduce your stress response, so it may affect your breathing rate or blood pressure or oxygen consumption or anxiety level" (Harvard Health Letter, 2016, p. 3).

A relationship has been identified between aging and loneliness, and evidence indicates that loneliness can "impair executive functioning, sleep, and mental and physical well-being. Together, these effects contribute to higher rates of morbidity and mortality in lonely older adults" (Cacioppo, 2014, p. 1). Smith (2012) researched the effect of loneliness in older adults and found that "Loneliness was lived through their bodies; it was embodied. Four minor themes emerged and were powerful in providing vivid descriptions of the embodiment of loneliness: fatigue, tension, withdrawal, and emptiness" (p. 49). Animal companionship would be useful in decreasing feelings of loneliness for older adults, therefore decreasing the implications of these potential health issues.

Problem Statement

With the growing older adult population and rising cost of health care, the focus on preventative health and the use of alternative treatment modalities is imperative. Although health care for the elderly is constantly evolving and improving, it is beneficial to determine what else

can be done to improve the quality of life for our older population. There has been much research on the various benefits of pet therapy and pet ownership, but this data has not yet been synthesized to determine the health benefits of pet ownership in the older adult population.

Purpose Statement

The purpose of this literature review is to examine the health benefits of pet ownership for older adults. This study will provide information on what health benefits come with pet ownership, and how this can affect the elderly population.

Research Question

This literature review will address the following research question:

1. What are the health benefits of pet ownership in older adults?

Conceptual Framework

Betty Neuman's Systems Model (2011) is a nursing theory that focuses on the response of a person to an actual or potential environmental stressor. The framework emphasizes prevention as the primary intervention to promoting overall wellness. It evaluates the inputs, in order to, reduce negative stressors and promote positive stressors. The nursing theory centers around keeping stressors and the stress response from having a damaging effect on the body. This holistic perspective it will expose the impact of pet ownership. (Grove, Burns, & Gray, 2013). For example, the surrounding environment is the inputs to a system, the person is the system, and the outputs are shown by the effect produced. We will specifically focus on the beneficial outputs of pet ownership for older adults. By looking at pet ownership as a health promotion input within Neuman's Systems Model, the health benefits of pet ownership can be evaluated.

Methods

Research Design

We conducted an integrative literature review to evaluate and synthesize previous research studies for the purpose of making a conclusion on the health benefits of pet ownership among older adults. According to Byrne (2016), “A systematic review is a literature review focused on a research question that tries to identify, appraise, select, and synthesize all high-quality research evidence relevant to that question.” This research design is appropriate to analyze all available information on the subject. This comprehensive analysis is useful to determine if pet ownership is a useful tool to benefit the health of the older adult population.

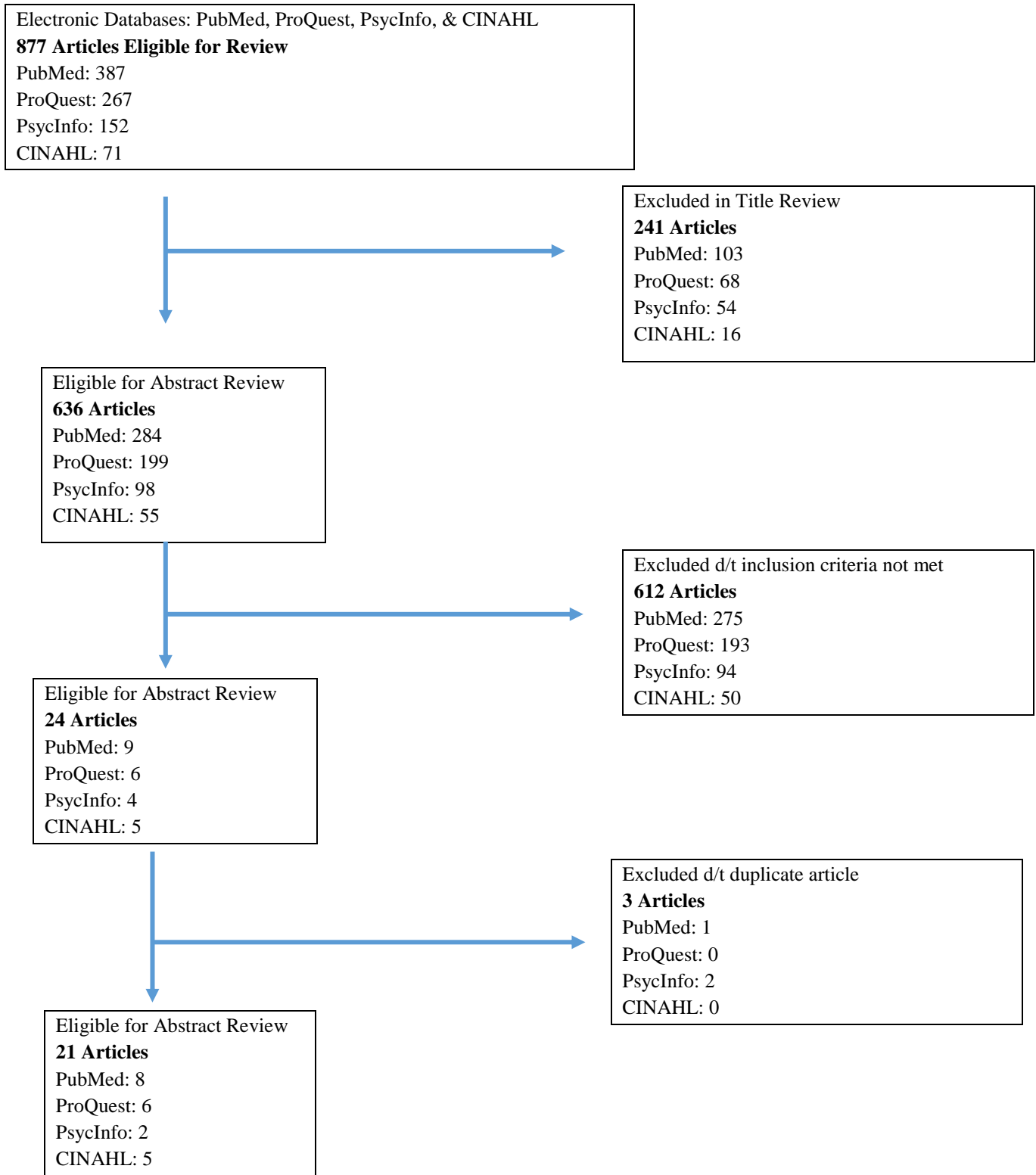
Literature Search Strategies

A computerized search of literature was conducted using PubMed, ProQuest, PsycInfo and Cumulative Index to Nursing and Health Literature (CINAHL). Multiple text combinations were used in various combinations including the following key words: *pet ownership, health benefits, elderly, elderly population, older adults, pet's, companionship, older population, dog ownership, physiological effects, mental health, physiological response, animal care, health risks.*

Literature Search Limitation and Inclusion/Exclusion Criteria

Articles reviewed included the keywords previously mentioned, and were relevant to the study of health benefits in the elderly. Qualitative and quantitative articles were both included. Additional inclusion criteria included being peer-reviewed, being written within the last fifteen years, written in the English language, and have the full-text available through DePaul University's library databases, or thorough the inter-library loan. Articles older than fifteen years were excluded in order to keep the information as relevant as possible as well as case studies.

Figure 1. Diagram of Study Selection and Review Process



Data synthesis and analysis

The data collected for this integrative literature review was ordered and categorized through the use of the framework developed by Whitemore and Knafl (2005). This framework served as a guide for eliminating, cataloging, and comparing pertinent literature found during the search process. The framework steps include data reduction, data display, and data comparison.

Data Reduction: Articles that did not meet the previously mentioned inclusion criteria were removed from the relevant literature. The elimination of this data developed a focused analysis. The remaining literature was categorized into cohesive subgroups.

Data Display: A table was created in order to present the articles that were examined in literature review. The relevant data is cataloged in Table 1. The Data Matrix helped to organize and compare the articles for this review. The table was created using the following headings: source, purpose, methods, sample size, and health benefits.

Data Comparison: The organized data was reviewed and analyzed. To address the research question, the Data Matrix displayed the health benefits of pet ownership that were determined in the studies being reviewed.

Findings/Results

Nine articles were found on the DePaul University Library database and were reviewed and analyzed. All of these articles were written in English, in the years of 2002-2016, and discussed various health benefits of pet ownership, both physical and mental, of multiple populations. Eight out of the nine articles discussed the older adult population. The three common benefits found throughout these articles were that pets help with the feeling of loneliness, improved physical activity, and increased social interactions. The most common benefit found was increased physical health, as six of the articles discussed this. Five articles

discussed increased social interactions through social networks related to owning a pet. Four of the articles found decreased reports of loneliness in patients with a pet, compared to patients without a pet. One article discussed the way dog ownership can decrease behavioral symptoms of dementia patients, but this was an outlier.

Discussion

Physical health improvements were the most commonly recognized benefit for older adults who owned a pet. The most significant reason for this is the increased physical activity related to caring for a pet, such as going for walks. It should be noted that these physical health benefits are more particular towards dogs, rather than cats or other pets. Dog owners reported significantly ($P < .05$) more total walking, walking frequency, leisure and total physical activity and total functional ability (Gretebeck et al, 2013). Dog owners and non-dog owners both walked daily, but the dog owners walked much more frequently and for longer periods. This increased physical activity related to owning a pet leads to improved cardiovascular health and strengthened bones and muscles. Further research revealed that this is true for pet owners of all ages, not just older adults. Although pet owners can be more active due to responsibilities to their pet, people who do not own pets can be just as or possibly more active than those who do. Multiple articles also suggested that pet owners attended the doctor less frequently than non-pet owners, however; it was found that pet owners were on just as many medications as non-pet owners (Poestges, Gresser, & Richartz, 2016). Pet ownership encourages older adults to get daily exercise and this is an extremely prominent benefit of pet ownership.

Pet ownership also increased social interactions for older adults. As older adults are often no longer part of the workforce, there is less opportunities for daily social interactions. There is increased opportunities for pet-owners both by meeting people at pet-centered activities, as well

as, interacting with people on the street. It should be noted that this benefit is also more focused towards dog owners, rather than owners of other animals. Older adults with dogs will frequently go to places such as dog parks or agility training with their pet, and interact with like-minded people. This creates a social network and opportunity to meet other people for these older adults that may not have those opportunities. Many articles also found that there was increased social interactions in everyday activities such as walking the dog. One study found that “81% of the dog owners said that the dog helped make contact to other people” (Poestges et al, 2016). Dog owners had noted that a stranger on the street were much more likely to stop and make conversation with them when they were with their dog than when they were without. As a relationship has been found between aging and loneliness, it is very beneficial for older adults to have increased opportunities for social interaction in order to minimize that loneliness.

Older adults who owned pets also reported less feelings of loneliness. This benefit is the only one that was not specific to dogs, but all breeds of pets. For many pet owners, a pet is considered a family member, a friend, and a companion. Many pet owners considered their pet to be a replacement for children or a partner. Some pet owners also described their pet as a form of therapy. Older adults reported their pet as being a motivator to go on with their lives even when feeling depressed, isolated, and lonely. Caring for an animal causes older adults to feel needed and useful, and adds routine to their day. Overall, having a pet provides companionship and love for a person that might otherwise feel alone and isolated.

Limitations of the Study

Although this review reveals insights into the health benefits of pet ownership among elderly, there are some limitations to be considered. Firstly, length of time owning a pet was not considered when comparing studies and analyzing health benefits. As a result, this could have

resulted in inconsistencies between the included literature in the review. Additionally, another limitation is that most of articles reviewed analyzed dog and/or cat ownership. Further studies are needed before the findings can be considered valid for all types pets. The available research has very limited studies that include pets other than cats or dogs. Lastly, it is important to note that age was considered the defining factor of the population when analyzing the literature. Other demographics or socioeconomic factors were not considered when comparing the studies reviewed.

Implications for Nursing Practice

These findings provided insight into nontraditional healthcare methods to improve the health and well-being of older adults outside of the hospital. Implications for nursing include the consideration that there is an opportunity to use pet ownership as a health promotion and disease prevention strategy. Nursing patient teaching may include the physical, emotional, and social benefits reported from pet ownership. Nurses can utilize this information to encourage their patients, particularly those who are inactive or do not have family support nearby, to consider adopting a pet for the health benefits.

Conclusion

This integrated literature review evaluated the effects of pet ownership; specially in the elderly. It was determined that pet ownership, and dog ownership in particular, is associated with increased physical activity, increased social interactions, and decreased feelings of loneliness. All of these benefits are found to facilitate an overall improved quality of life among the elderly population. Additionally, it was found that the increase in physical activity found in pet owners was not limited to older adults, but was also found in pet owners of all ages. Future studies should focus on long-term pet ownership health benefits; specifically studying the possibility of

increased physical activity related to owning a pet as a health promotion and disease prevention strategy throughout one's lifespan. The information that was obtained in this literature review should be used to improve the quality of life for older adults. This could be implemented a few separate ways, such as senior homes partnering with shelters, doctors recommending a pet to their patients, or shelters offering a senior discount to encourage older adults to adopt a pet. More research on this topic could also further direct implementation.

Table 1: Data Matrix

Source	Purpose	Method	Sample Size	Health Benefits
<p>Utz (2014): Walking the dog: The effect of pet ownership on human health and health behaviors</p>	<p>“This analysis explores whether pet owners have better physical health outcomes, and if so, whether the positive physical health benefits are explained by better health behaviors that result from having to take care of the pet’s physical needs.”</p>	<p>Quantitative National Health and Nutrition Examination Survey</p>	<p>n= 2,474 non-institutionalized people in the United States</p>	<p>“Results showed that pet owners, particularly dog and cat owners, had more positive physical health outcomes when compared to non pet owners or those owning other types of pets.”</p>
<p>Nordgren et al (2014): Effects of dog-assisted intervention on behavioural and psychological symptoms of dementia.</p>	<p>“To evaluate the effect of a dog-assisted intervention on the behavioral and psychological symptoms of residents with dementia during a six-month period.”</p>	<p>Quantitative Cohen-Mansfield Agitation Inventory (CMAI) and the Multi-Dimensional Dementia Assessment Scale (MDDAS) were used to assess the effects of a dog-assisted intervention on</p>	<p>n=33 residents in 8 different nursing homes in Sweden. 20 in the intervention group and 13 in the control group</p>	<p>“Dog-assisted intervention may provide an alternative or a complement to pharmacological treatments to reduce behavioral symptoms in people with dementia”</p>

		participants' behavioural and psychological symptoms		
Johnson et al (2002): Older Latinos, Pets, and Health	"The present study is an initial effort at describing one ethnic minority group, Latino pet owners, the extent of their relationships with their pet, and the extent to which these relationships may be beneficial in facilitating health."	Quantitative; Questionnaire	n=24 Ages 50-83; 20 females and 4 males	"Participants were devoted and involved with their pet and view themselves as healthy"
Gretebeck et al (2013): Dog Ownership, functional ability, and walking in community-dwelling older adults	"Identify factors that influence older adult walking and compare physical activity, functional ability and psychosocial characteristics by dog ownership status."	Quantitative; Physical Activity Scale for the Elderly, Physical Functioning Questionnaire, and Theory of Planned Behavior Questionnaire	n= 1,091 Ages 65-95 years old	"Dog owner/dog walkers ($n = 77$) reported significantly ($P < .05$) more total walking, walking frequency, leisure and total physical activity and higher total functional ability"

Pikhartova et al (2014): Does Owning a Pet Protect Older People Against Loneliness?	“Examine the association between pet ownership and loneliness, and if pet ownership is a response to or protection against loneliness”	Quantitative; Cross-sectional and longitudinal regression analysis to assess the bi-directional relationship	n=5,210, men and women adults aged 50+	“The analysis demonstrated that, for women, pet ownership is significant in protecting against loneliness”
Poestges et al (2016): The Impact of a Pet, in this Case a Dog, on Physical Activity, Independence, Social Contacts, Health and Quality of Life of Elderly People	“The impact of dog ownership on health, medical needs, physical activity, quality of life, and social contacts in elderly people”	Quantitative One-on-one interviews with participants	n=52, residents of Sauerlach over 65 years of age	“Dog owners went to the doctor less frequently and had more frequent contact to the social environment”
Stanley et al (2014): Pet ownership may attenuate loneliness among older adult primary care patients who live alone	“The aim of this study is to describe the association of pet ownership and loneliness”	Quantitative; Cross-sectional survey	n=830; older primary care patients ages 60+	“Pet owners were 36% less likely than non-pet owners to report loneliness, in a model controlling for age, living status (i.e., alone vs. not alone), happy mood, and seasonal residency”

<p>Knight & Edwards (2008): In the Company of Wolves- The Physical, Social, and Psychological Benefits of Dog Ownership</p>	<p>“A preventative approach is taken to address this problem by examining a mechanism that can enhance physical health and reduce minor ailments.”</p>	<p>Qualitative; Focus groups</p>	<p>n=65; 10 focus groups</p>	<p>“Interaction between humans and dogs is a mechanism that can enhance the physical and psychological health of elderly citizens and promote a social support network between dog owners.”</p>
<p>Feng et al (2014): Dog ownership and physical activity in later life: A cross-sectional observational study</p>	<p>“To examine whether dog ownership amongst community dwelling older adults (≥ 65 years) is associated with objectively measured physical activity (PA)”</p>	<p>Quantitative; Observation & Questionnaire</p>	<p>n= 547: ages 65+</p>	<p>“Dog ownership is associated with physical activity in later life. Interventions to increase activity amongst older people might usefully attempt to replicate elements of the dog ownership experience.”</p>

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