

Apr 21st, 10:00 AM - 11:00 AM

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Stephanie Bennett, "The Benefits of Exposure to Animals for Persons with Dementia: A Literature Review" (April 21, 2014).
Undergraduate Research Symposium. Paper 2.
http://cornerstone.lib.mnsu.edu/urs/2014/oral_session_03/2

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**The Benefits of Exposure to
Animals for Persons with
Dementia:
A Literature Review**

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Purpose of Study

- To evaluate the effectiveness of exposure to animals for persons with dementia
- Examine the current amount and quality of existing empirical research

Literature Review

- Sites of exploration:
 - PsycINFO
 - PubMed
 - Ageline
- Search terms:
 - “Pet therapy Alzheimer’s”
 - “Pet therapy dementia”
 - “Animal therapy Alzheimer’s”
 - “Animal therapy dementia”

Literature Review

- Inclusion criteria:
 - Experimental designs (no literature reviews)
 - Articles in English
 - Full-access availability (no abstracts)
 - Articles pertaining to elderly individuals suffering from some form of dementia

Reliability Check

- A secondary literature review was performed by a peer for verification purposes; Identical search criteria were maintained

Original search

37 total found

14 articles excluded;
23 articles included

Reliability search

17 articles included

- 14 articles matched original search
- 3 original findings

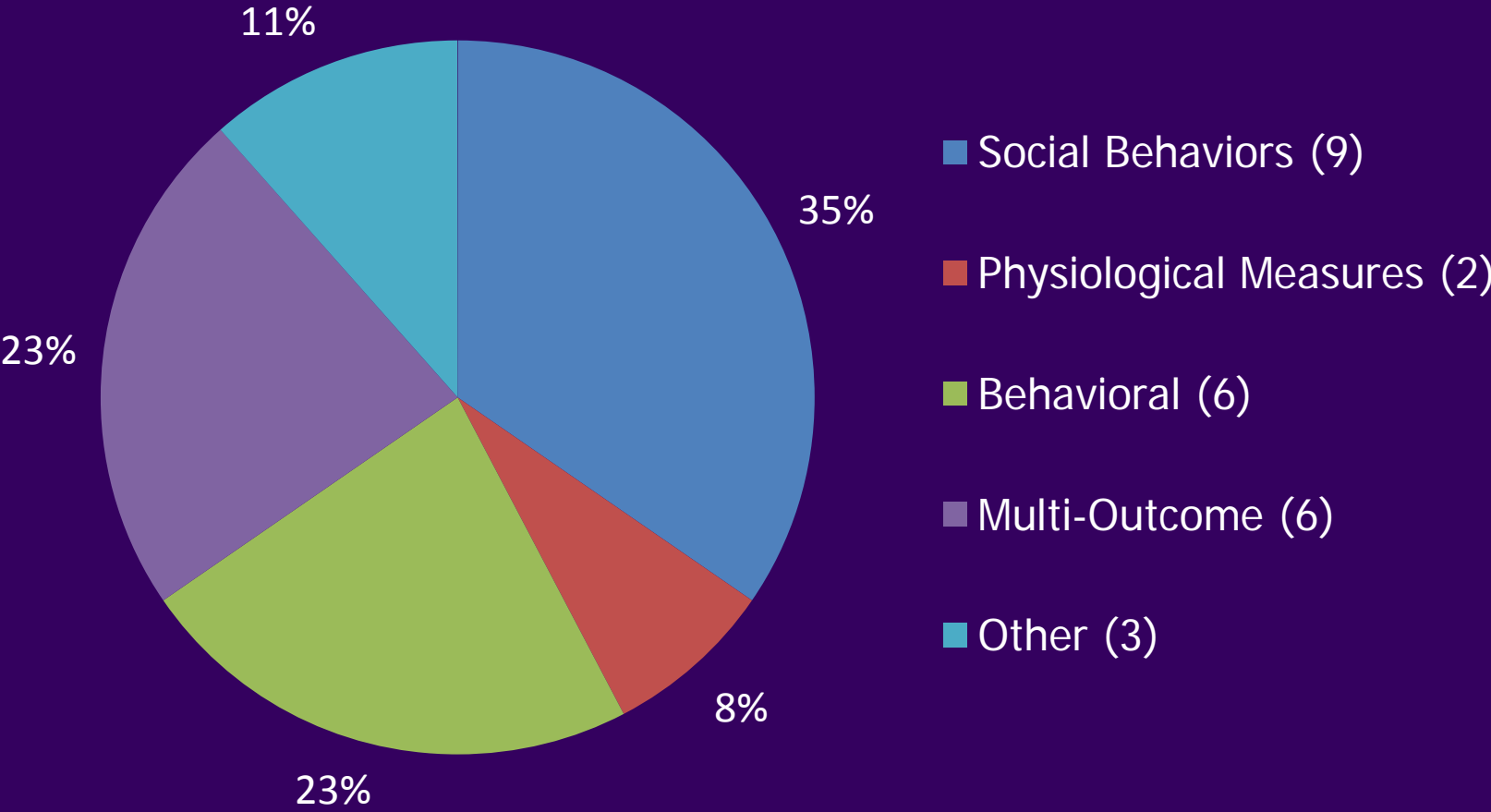
Important Notes

- Wide range in number of participants and duration of studies
- Variety of animals used and various numbers used per study
- Study intent varied
- Domestic and international studies used
- Search terms produced similar results on each academic site therefore high overlap occurred

Literature Outcomes

- Each article found was thoroughly examined—Final inclusion judgments were based on a review of each article and classified based on the study intent, methods, and outcomes

Outcomes Measured



Social Behaviors

- Nine studies
- “Social behavior” studies examined attributes of social behaviors (i.e. talking, initiating conversations, touching, etc.) that were effected through use of animal implementation

Social Behaviors

Study	General Outcome(s)	+ / 0
<i>A comparison of the effects of toys versus live animals on the communication of patients with dementia of the Alzheimer's type</i>	<ul style="list-style-type: none"> • Initiation performance increased from baseline • Average total words increased from baseline to withdrawal 	+
<i>Effects of animal-assisted therapy on agitated behaviors and social interactions of older adults with dementia</i>	<ul style="list-style-type: none"> • Agitated behavior of participants decreased immediately following intervention • Social interaction increased significantly 	+
<i>The use and implications of a canine companion in a therapeutic day program for nursing home residents with dementia</i>	<ul style="list-style-type: none"> • Significant increase in the amount of socialization found throughout study 	+
<i>The evaluation of an animal assisted therapy intervention for elders with dementia in long-term care</i>	<ul style="list-style-type: none"> • There was a significant increase in social behavior and a significant decrease in agitated behavior 	+
<i>The effects of pet therapy on the social behavior of institutionalized Alzheimer's clients</i>	<ul style="list-style-type: none"> • There was found to be an increase in social behaviors over time including: smiles, laughs, leans, touches, verbalizations, and total social behaviors 	+
<i>The effects of pet facilitative therapy on patients and staff in an adult day care center</i>	<ul style="list-style-type: none"> • Increases found in verbalization, smiling, attention to the pet, increased periods of "awakeness" after sessions. 	+
<i>Comparison of the effect of human interaction, animal-assisted therapy, and AIBO-assisted therapy on long-term care residents with dementia</i>	<ul style="list-style-type: none"> • Increased social interaction found in all residents 	+
<i>Using a therapy dog to alleviate the agitation and desocialization of people with Alzheimer's disease</i>	<ul style="list-style-type: none"> • Overall occurrence of agitated behavior decreased significantly with the therapy dog present • Therapy dog presence enhanced socialization (increases in verbalization, smiles, looks, lens, and tactile contact) 	+
<i>Defining the role of pet animals in psychotherapy</i>	<ul style="list-style-type: none"> • All subjects displayed various degrees of positive response 	+

Physiological Measures

- Two studies
- “Physiological Measures” included measures of variables such as heart rate or weight fluctuation

Physiological Measures

Study	General Outcome(s)	+ / 0
<i>The effects of a 'pet as therapy' dog on persons with dementia in a psychiatric ward</i>	<ul style="list-style-type: none">• The experimental group showed a slight drop in the mean diastolic blood pressure over the 12 week period• A significant reduction was found in heart rate in the experimental group from pre- to post-assessment	+
<i>Animal-assisted therapy and nutrition in Alzheimer's disease</i>	<ul style="list-style-type: none">• A significant increase in nutritional intake when residents were exposed to the aquariums• There was a significant increase in weight the month the aquarium was introduced	+

Behavioral Problems

- Six studies
- “Behavioral” studies examined improvements (or worsening) of behavioral problems (i.e. biting, hitting, etc.) that occurred during or after animal therapy introduction

Behavioral Problems

Study	General Outcome(s)	+ / 0
<i>Animal assisted therapy for people with dementia</i>	<ul style="list-style-type: none"> All participants found to have a significant improvement in their apathy state 	+
<i>Resident dog in the Alzheimer's special care unit</i>	<ul style="list-style-type: none"> Sustained decrease in behavioral problems during the day as compared to the evening shift; Overall behavioral problems significantly less during the evening shift than day shift A significant drop of behavioral problems took place 	+
<i>A pet therapy intervention with geriatric psychiatry inpatients</i>	<ul style="list-style-type: none"> A majority of subjects showed improvement in self-care functioning, irritable behavior, and withdrawn behavior but none were significant Majority of subjects in each group showed improvement or stable scores on three MOSES subscales: self-care functioning, irritable behavior, withdrawn behavior 	+
<i>The impact of different dog-related stimuli on engagement of persons with dementia</i>	<ul style="list-style-type: none"> Positive attitude was found toward all stimuli; Mean attitude and interest positive for dog activities 	+
<i>A day care program and evaluation of animal-assisted therapy (AAT) for the elderly with senile dementia</i>	<ul style="list-style-type: none"> Significant decreases were found across many symptoms of the Behave-AD examination (e.g. aggressiveness, anxieties and phobias) 	+
<i>Can agitated behavior of nursing home residents with dementia be prevented with the use of standardized stimuli?</i>	<ul style="list-style-type: none"> Increase was found in mean attitude and mean engagement scores 	+

Multi-Outcome Studies

- Six studies
- “Multi-outcome” studies had two or more unique focuses

Multi-Outcome

Study	Study Intent	General Outcome(s)	+ / 0
<i>Effects of animal-assisted therapy on behavioral and/or psychological symptoms in dementia: A case report</i>	<i>Single case study: Investigate effects of AAT on pharmaceutical treatment; behavioral/psychiatric symptoms; ADLs; cognition/orientation; quality of life; pain/fall risk</i>	Mrs. Johnson exhibited varying improvements and regressions before, during, and after treatment. Because this study focused on one individual it may be inappropriate to make generalizations.	+ / 0
<i>Animal-assisted activity and emotional status of patients with Alzheimer's disease in day care</i>	<i>Assess the effect of AAA on cognition, behavior, psychological status, emotional status, motor activity in severe Alzheimer's disease (AD)</i>	<ul style="list-style-type: none"> • Significant decrease found in NPI anxiety; Significant increase of pleasure/general alertness found during AAA sessions; Significant decrease in sadness • Motor activity increased across the study (motion, vocal expression, and attraction to the environment) 	+
<i>Long-term evaluation of animal-assisted therapy for institutionalized elderly people: A preliminary result</i>	<i>Evaluate psychological and behavioral effects of AAT on elderly residents of a nursing home on a long-term basis</i>	<ul style="list-style-type: none"> • Improvements in impaired spatial orientation/emotional ability; Improved motor function • After 6-12 months increases in motor insufficiency in eating, increases in impaired wakefulness, impaired concentration, and impaired thinking in abstractions • Continuous emotional improvements occurred 	+
<i>The effect of a therapy dog on socialization and physiological indicators of stress in persons diagnosed with Alzheimer's disease</i>	<i>Examined the effect of the presence of a therapy dog on socialization and physiological indicators of stress in individuals with Alzheimer's disease.</i>	<ul style="list-style-type: none"> • No significant interaction found for blood pressure, mean blood pressure, pulse, or peripheral skin temperature • Significant differences found when the dog was present for the socialization variables: Frequency scores of smiles, tactile contact, looks, physical warmth, praise, duration of leans toward stimulus, smiles, tactile contact, looks 	+
<i>Pet therapy in elderly patients with mental illness</i>	<i>Evaluate effects of pet therapy on cognitive function, mood, and perceived quality of life on elderly inpatients affected by dementia, depression and psychosis.</i>	<ul style="list-style-type: none"> • A positive effect on self-perceived quality of life was observed in participants 	+
<i>Association with companion animals and the expression of noncognitive symptoms in Alzheimer's patients</i>	<i>Determine effect association with a companion animal had on the progression of cognitive decline</i>	<ul style="list-style-type: none"> • Alzheimer's patients who spent more time interacting with pets did not experience the following: Anxiety, hyperactivity, verbal aggression, hallucinations 	+

Other

- Three studies
- “Other” studies did not have an obvious category they seemed to belong to thus they received a miscellaneous category of their own

Other

Study	Study Intent	General Outcome(s)	+ / 0
<i>Animal-assisted activity: Experiences of institutionalized Japanese older adults</i>	<i>Perception of animal-assisted activity (AAA) and how perceptions may be relevant to clinical nursing practices in the AAA context.</i>	Six themes found: Positive feelings about dogs, confidence in self, recalling fond memories about dogs, a break from the daily routine, interacting with other residents through dogs, enhanced communication with volunteers	+
<i>Are pets a source of support or added burden for married couples facing dementia?</i>	<i>Impact of dementia on relationships among pets, caregivers, and care recipients was examined using content analysis of questions in a telephone survey.</i>	<ul style="list-style-type: none"> • Generally more positive responses evident when caregivers described relationship with their pets • Generally the only negative changes reported about their relationships was having less time for/devoting less attention 	+
<i>An evaluation of dog-assisted therapy for residents of aged care facilities with dementia</i>	<i>Attempted to address shortcoming of if dog-assisted therapy is beneficial for people with dementia living in an aged-care facility.</i>	<ul style="list-style-type: none"> • Increased quality of life scores found in testing group • Dog-assisted therapy may address unmet needs of participants by providing meaningful activity, stimulation, pleasurable social interaction, and comfort by physical contact 	+

Summary of Findings

- General positive effect on participants
 - The majority of studies found positive results on the outcomes measured
 - A majority of participants enjoyed their experience and report they would like to continue their interaction with therapy animals

Limitations of Current Literature

- Multiple definitions of animal or pet therapy
- Poor standardization
- Intervention implementation varied widely across studies
 - Length of intervention (days to months)
 - “Dose” of intervention (number and length of sessions)
 - Type of animal used
- Other studies may exist that were not found in this review

Limitations of Current Literature

- Variety in study quality
 - Single subject to large group studies; difficulty implementing random assignment; varying use of control groups; generally small sample sizes
 - Quality of outcome measures: Qualitative vs. Quantitative; Use of psychometrically sound measures; Use of study-exclusive measures
 - Fluctuating length of follow-ups

→ Difficult to make conclusions about the literature when interventions and the quality of assessment instruments vary so much across studies

Future Research

- Successful studies should be limited to one area of specific examination
- **Create more standard guidelines for implementation of therapy**
 - The field should specify further what specific outcomes/benefits are theoretically expected
 - Create guidelines that specify appropriate measurement tools of different outcomes to allow for comparisons across studies