

ORIGINAL ARTICLE

Effect of a companion dog on depression and anxiety levels of elderly residents in a long-term care facility

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INTRODUCTION

Dogs are known to make a positive difference to the physiological health of humans. They can be classified as preventers of ill-health, facilitators to recovery of ill-health and as predictors of ill-health. They can therefore also play a role in the psychological health of humans by reducing levels of stress, anxiety, depression and loneliness.

Dogs have been used for therapeutic purposes in various settings, with people of all ages. The therapeutic use of dogs is noted as early as 1699 by John Locke who reported the value of giving animals to children to develop tender feelings and responsibilities (Locke cited in Serpell¹). In 1880, Florence Nightingale reported on the therapeutic role of companion animals in the treatment of physical ailments (Notes on nursing, cited in Serpell¹). In 1969 Boris Levinson, one of the pioneers of Animal Assisted Therapy (AAT), reported on the use of dogs in psychotherapy with

Abstract

Background: The aim of the present study was to explore the effect of a companion dog on the depression and anxiety levels of residents in a long-term care facility.

Methods: A total of 16 residents (eight men and eight women) were randomly assigned to a control group ($n = 8$) and an Animal Assisted Activity (AAA) group ($n = 8$) that met once a week for 6 weeks. All residents in the AAA group were either in wheelchairs or walking with crutches. The Beck Depression Inventory and the Beck Anxiety Inventory (BAI) were used pre- and post-intervention.

Results: For both the total group and control group no significant differences were found on depression and anxiety pre and post mean scores. However, for the AAA group, significant differences were found between pre and post BDI mean scores while the BAI mean score differences were non-significant.

Conclusion: The results of this small study confirm the results of other studies that AAA visits can make a difference to the depression levels of residents in long-term care facilities.

children. He reported that children were able to communicate better and express their feelings with a therapy dog in psychotherapy sessions.^{1,2}

Pets as therapy or animal-assisted therapy/activities (AAT/AAA) have been used in many institutions with elderly patients.³ The elderly can be defined as people older than 65 years. In South Africa 4.9% of the population fit this description (Sensus, cited in Basson *et al.*⁴).

When most of the elderly people arrive at a long-term care facility they feel depressed, alone and disorganized. Many of the residents in these institutions previously had pets of their own and contact with an animal would bring back many fond memories. Furthermore, contact with an animal also provides an opportunity for social interaction and discussions with other residents.

LaJoie (cited in Kruger and Surpell⁵) reported 20 different definitions of animal-assisted therapy (AAT)

and 12 other terms, such as pet therapy, four-footed therapy and pet-facilitated therapy, which created much confusion. The Delta Society⁶ distinguishes between animal-assisted therapy (AAT) and animal-assisted activities (AAA) as follows: AAT is a goal-directed intervention where the animal is an integral part of the treatment process and is delivered by experts with special training. AAA on the other hand, are more informal and may be conducted by professionals, paraprofessionals, and volunteers and their animals.

AAT/A can have different goals, such as reduction of loneliness, depression, anxiety and improvement in cognition and quality of life.⁷ AAT/A may also be part of the multidisciplinary treatment of residents in long-term care where it can play a role in decreasing stress as well as have a positive influence on physical and mental health.⁸

According to Stasi *et al.*⁹ animal interaction can improve depressive symptoms and significantly lower blood pressure. Colombo *et al.* also found that AAT/A had a positive effect on the depressive symptoms and quality of life of institutionalized elderly.¹⁰ Wiggett,⁷ the author of a small South African study on the effect of animal assisted visitation in long-term care facilities, reported significant changes in the depression scores of the treatment group after four weeks of visits with a guide dog. Cowley-Robinson, Fenwick and Blackshaw (cited in Banks and Banks¹¹) also reported a significant decrease in depression, fatigue, tension and confusion in the resident and visiting-dog groups. However, Motomura *et al.*¹² found no significant differences on the depression, physical self-maintenance, apathy and irritability pre and post scores of patients in a nursing home after the implementation of an AAT program. They, however, used a different methodology. Where the other cited studies used one dog visiting once a week for six consecutive weeks, Motomura *et al.*¹² used two dogs visiting on four consecutive days.

The authors of several other studies reported positive effects of AAT/A on the health of people, such as relaxation (Katcher *et al.*) and the reduction of stress (Ohman *et al.*), anxiety (Sebkova) and depression (Holcomb) (cited in Wiggett⁷).

In addition to the personal benefits, the presence of pets also enables people to interact and socialise and the touching of animals increases the social behavior of residents in long-term care.¹³ Residents may also

feel more active after visits from a therapy dog. Dogs accept the residents as they are and are not bothered by their age or disabilities.¹⁴

The aim of the present study was to explore the effect of a companion dog on the depression and anxiety levels of residents in a long-term care facility. This study was part of a larger project on animal assisted activities and residents in a long-term facility.

METHOD

A purposive sample of residents, 65 years and older, from Nerina Place, an old age home in Bishop Lavis, were recruited to participate in the study. Exclusion criteria were fear of dogs, allergic reactions to dogs and no consent to the study. Inclusion criteria were informed consent and no known allergies to dogs. These exclusion and inclusion criteria were applicable to both the AAA group and the control group. A total of 16 residents (eight men and eight women) were randomly assigned to an animal-assisted activity (AAA) group ($n = 8$) and control group ($n = 8$). All residents in both groups were either in wheelchairs or walking with crutches. One participant (from the AAA group) decided not to participate after the third session. Therefore, she was excluded from the BDI and BAI scoring. The protocol of this research project was approved by the Cape Peninsula Organization for the Aged, Cape Town, South Africa.

The Beck Depression Inventory (BDI)¹⁵ was used to measure symptoms of depression. The BDI, a 21-item self-report measure, has been extensively used in depression research. Kagee¹⁶ reported a Cronbach's alpha of 0.85.

The Beck Anxiety Inventory (BAI)¹⁷ was used to measure symptoms of anxiety. The BAI, a 21-item self-report measure, has also been extensively used in anxiety research.

The AAA group received 30 min visitations once a week for six weeks. The AAA visitations consisted of visits from a qualified 'Pets as Therapy' dog and handler. The visitations were on the same day and time of the week for six weeks. The dog was on leash and the residents were allowed to interact with the dog by talking to, grooming and patting the dog whenever they wanted to. The same dog was used for all the visitations. The visitations occurred in a separate room away from the rest of the residents. The control group residents never saw the therapy dog until after the post measures were done.

Statistical Package for Social Sciences (SPSS, Chicago, IL, USA), version 15, was used to analyze the data. Due to the small groups and the data not being normally distributed, the non-parametric Wilcoxon Signed Rank Test was used.

RESULTS

No significant differences were found between the AAA and the control group pre BDI and BAI mean scores (Table 1, Figs 1,2).

Significant differences were found between pre and post BDI mean scores ($Z = -2.385$, $P = 0.017$) for the AAA group. The BAI mean score differences were non-significant. For the control group no significant differences were found between pre and post BDI and BAI mean scores.

DISCUSSION

The aim of the present study was to explore the effect of a companion dog on the depression and anxiety levels of residents in a long-term care facility. Sixteen residents were randomly assigned to an AAA and control group.

The results of this small study confirms the results of other studies that AAA visits can make a difference

in the depression levels of residents in long-term care facilities (Colombo *et al.*;¹⁰ Cowley-Richardson, cited in Banks and Banks;¹¹ Stasi *et al.*⁹). These results differ from those of Motomura *et al.*¹² who reported no differences in the depression scores. However, they reported that most of the residents were happy with receiving visits from the dogs.

Qualitatively, participants in the present study gave positive feedback about the intervention which was not measured nor reflected by the measures used. Verbal feedback from AAA group participants reflected an increase in social interaction expressed by comments such as 'we talked to each other about the dog'. Other feedback indicated that the visits brought back or created pleasant memories expressed by two participants as follows: '(visits from the dog) made me think about my own dog when I was young'; 'at night I think about Pietie (the dog) and I smile'.

Although the difference between the anxiety scores for the AAA group was non-significant, these results might be due to the small groups that were used in this research. Due to the small number of residents used, it is necessary to conduct further research with larger groups on animal-assisted interventions to confirm that AAA visitation can have a positive effect on the psychological well-being of residents in long-term care. A larger group of participants is needed for statistical power and better representation of different backgrounds and problems that residents in long-term facilities might have.¹⁸

In addition to larger numbers, additional factors, such as social interaction and loneliness need to be explored. For further research it is important to select residents that were previously dog owners

Table 1 Descriptive results of the Animal Assisted Activity (AAA) and control group

	AAA (n = 7)				Control (n = 8)			
	Pre		Post		Pre		Post	
	\bar{X}	SD	\bar{X}	SD	\bar{X}	SD	\bar{X}	SD
BDI	19.86	8.88	11.86	8.75	13.88	7.97	15.88	10.18
BAI	14.00	7.0	10.71	7.61	11.13	13.03	13.50	10.73

BAI, Beck Anxiety Inventory; BDI, Beck Depression Inventory.

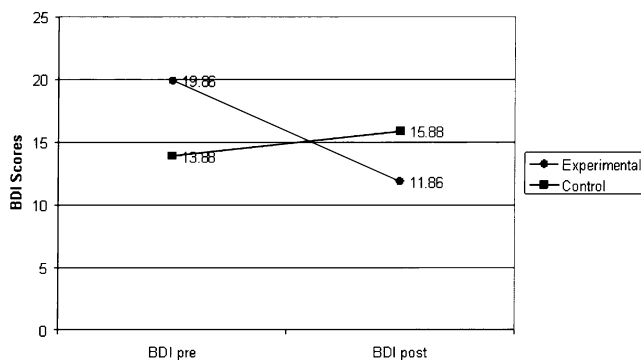


Figure 1 Graphic presentation of Beck Depression Inventory (BDI) mean scores.

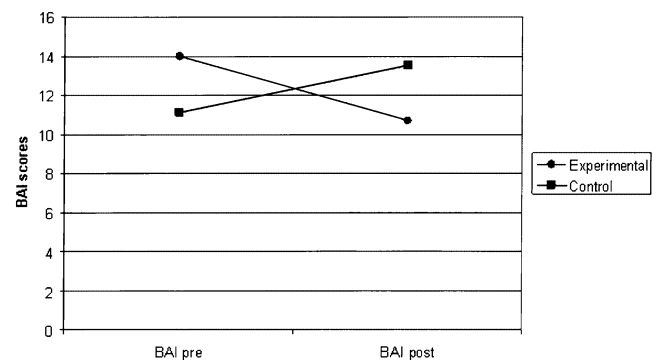


Figure 2 Graphic presentation of Beck Anxiety Inventory (BAI) mean scores.

and non-dog owners. Further research needs to be conducted to qualitatively explore the way in which residents in a long-term care facility experience AAT/A.

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REFERENCES

- 1 Serpell JA. Animal-assisted interventions in historical perspective. In: Fine AH, ed. *Handbook on Animal-Assisted Therapy*, 2nd edn. San Diego, CA: Academic Press, 2006; 3–17.
- 2 Gammonley J, Yates J. Pet projects: animal-assisted therapy in nursing homes. *J Gerontol* 1991; **17**: 12–15.
- 3 Burke J, Daniel SA, Burke J *et al.* Animal assisted therapy and the elderly: Effects on psychological well-being. In: Salotto P, ed. *Pet Assisted Therapy: A Loving Intervention and an Emerging Profession: Leading to a Friendlier, Healthier and More Peaceful World*. Norton, MA: D.J. Publication, 2004; 20–27.
- 4 Basson E, Basson M, Bedeker N, Van der Heever M, Viljoen A. 'n Ondersoek na die terapeutiese waarde van Troeteldierbemiddelde Aktiwiteit vir depressie, angs, pyn, bloeddruk en kognisie van bejaarde inwoners van Huis Nerina, Bishop Lavis. [The effect of animal-assisted activities on depression, anxiety, pain, blood pressure and cognition of residents in Nerina Home. Bishop Lavis, South Africa]. Unpublished Research Paper, Department of Occupational Therapy, Stellenbosch University, 2007.
- 5 Kruger KA, Serpell JA. Animal-assisted interventions in mental health. Definitions and theoretical foundations. In: Fine AH, ed. *Handbook on Animal-Assisted Therapy*, 2nd edn. San Diego, CA: Academic Press, 2006; 21–38.
- 6 Delta Society. *About Animal-Assisted Activities & Animal-Assisted Therapy*. n.d. [Cited 3 June 2007.] Available from URL: <http://www.deltasociety.org/aboutaaat.htm>
- 7 Wiggett C. Animal-assisted visitations, loneliness and depression among residents in old age homes. Department of Psychology, unpublished honours assignment, Stellenbosch University, 2003.
- 8 Dennis JL, Allen KR. *Animal-Assisted Therapy as an Intervention with Older Adults*. [Cited 30 June 2008.] Available from URL: <http://depts.washington.edu/geroctr/center2/GERO6CD/pdf/86ae.pdf>.
- 9 Stasi MF, Amati D, Costa C *et al.* Pet-therapy: a trial for institutionalized frail elderly patients. *Arch Gerontol Geriatr* 2004; **9** (Suppl): 407–412.
- 10 Colombo G, Buono MD, Smania K *et al.* Pet therapy and institutionalized elderly: a study on 144 cognitively unimpaired subjects. *Arch Gerontol Geriatr* 2006; **42**: 207–216.
- 11 Banks MR, Banks WA. The effects of group and individual animal-assisted therapy on loneliness in residents of long-term care facilities. *Anthrozoos* 2005; **18**: 396–408.
- 12 Motomura N, Yagi T, Ohyama H. Animal assisted therapy for people with dementia. *Psychogeriatrics* 2007; **4**: 40–42.
- 13 Bernstein PL, Friedman E, Malaspina A. Animal-assisted therapy enhances resident social interaction and initiation in long-term care facilities. *Anthrozoos* 2000; **13**: 213–224.
- 14 Cangelosi PR, Embrey CN. The healing power of dogs: cocoa's story. *J Psychosoc Nurs Ment Health Serv* 2006; **44**: 17–20.
- 15 Beck AT, Steer RA, Garbin MG. Psychometric properties of the Beck Depression Inventory: twenty years of evaluation. *Clin Psychol Rev* 1988; **8**: 77–100.
- 16 Kagee A. Symptoms of depression and anxiety among a sample of South African patients living with a chronic illness. *J Health Psychol* 2008; **13**: 547–555.
- 17 Beck AT, Steer RA. *Beck Anxiety Inventory Manual*. San Antonio, TX: The Psychological Corporation, 1993.
- 18 Kawamura N, Niiyama M, Niiyama H. Long-term evaluation of animal-assisted therapy for institutionalized elderly people: a preliminary result. *Psychogeriatrics* 2007; **7**: 8–13.