

# Attitudes to animal-assisted therapy with farm animals among health staff and farmers

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BERGET B., EKEBERG Ø. & BRAASTAD B. O. (2008) *Journal of Psychiatric and Mental Health Nursing* 15, 576–581

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Green care is a concept that involves the use of farm animals, plants, gardens or the landscape in cooperation with health institutions for different target groups of clients. The present study aimed at examining psychiatric therapists' ( $n = 60$ ) and farmers' ( $n = 15$ ) knowledge, experience and attitudes to Green care and animal-assisted therapy (AAT) with farm animals for people with psychiatric disorders. Most respondents had some or large knowledge about Green care, but experience with Green care was generally low in both groups. Both farmers and therapists believed that AAT with farm animals could contribute positively to therapy to a large or very large extent, with farmers being significantly more positive. Most of the therapists thought that AAT with farm animals contributes to increased skills in interactions with other humans, with female therapists being more positive than males. Two-thirds of the therapists believed that AAT with farm animals to a large extent could contribute better to mental health than other types of occupational therapy. There were no differences in attitudes to AAT between psychiatrists/psychologists and psychiatric nurses. This study confirms the marked potential of offering AAT services with farm animals for psychiatric patients by documenting positive attitudes to it among psychiatric therapists.

**Keywords:** animal-assisted therapy, attitudes, farm animals, farmer, psychiatric disorders, psychiatric therapist

Accepted for publication: 13 February 2008

## Introduction

Although effects of animal-assisted therapy (AAT) have been well documented with pets, there is almost a complete lack of scientific studies concerning attitudes and use of farm animals as a therapeutic tool for humans with physical, psychiatric or social problems. In several European countries, many farms serve as care farms in cooperation with health authorities. This is called *Green Care* or *Farming for Health*, a concept which is not restricted to the use of animals, but which also includes effects of plants,

gardens, forests and the landscape (Hassink & van Dijk 2006). In AAT with farm animals, the combined effect of both contact and work with the animals have the potential of giving clients several positive influences; by providing a source of physical contact, promoting a varied lifestyle, and increase coping ability through daily routines that include feeding and caring for other living creatures.

There are few scientific reports on effects of attending Green care programmes. However, Berget & Braastad (1989) showed that intervention with farm animals helped mentally retarded persons to develop more responsibility

and endurance, and Berget *et al.* (2004) reported positive effects on anxiety, depression and self-esteem in a small Norwegian pilot study of five completers of totally 10 patients with a variety of diagnoses. In a randomized controlled study of 90 persons with long-lasting psychiatric disorders working with farm animals, the 60 persons in the treatment group showed increased intensity and exactness of work at the end of a 12-week intervention compared with the beginning of the intervention (Berget *et al.* 2007). Among patients with affective disorders, increased intensity of work correlated significantly with increased generalized self-efficacy and decreased anxiety (Berget 2006). An exploratory study of 80 children at Green Chimneys educational farm showed that the children utilized the farm animals as if utilizing the service of a therapist; they visited the animals to feel better, and they learned about nutrition and caring for animals (Mallon 1994). A German survey of 167 care farms concluded that working with both animals and plants were meaningful activities and an aid to engage in social interaction (Lenhard *et al.* 1997). An Austrian study revealed that living and working on small-scaled family farms with social integration in the farm household, sound nature and close contact to farm animals may exert a positive impact on the health of mentally disabled (Wiesinger 1991).

No previous study has measured therapists' and farmers' attitudes, knowledge and experiences of AAT with farm animals for persons with psychiatric disorders. In this study, we examined both knowledge and attitudes among therapists and farmers that were about to participate in a controlled study of effects of AAT with farm animals on persons with psychiatric disorders. To make this kind of intervention functioning well, good cooperation between agriculture and the health sector is a prerequisite. The objective of this study was therefore to investigate similarities and differences in the knowledge, experience and attitudes between these two groups of professions. Prior to an Australian dog visitation programme for hospitalized children, allied and non-clinical health staff was more positive about the programme than the doctors and nurses (Moody *et al.* 2002). In our study, we wanted to check for any differences in attitude among senior professionals like psychiatrists or psychologists that may have a decisive influence on the choice of therapies, and the major group of nurses, psychiatric nurses. Gender differences in various aspects of human–animal interactions were briefly reviewed by Herzog (2007), concluding that females in general show a more positive attitude than men. This result is in agreement with a study of Mason & Hagan (1999) where female therapists were found to be more positive to AAT with pets than men. More information on such gender differences is important. If groups of therapists or a par-

ticular sex among them are more reluctant to recommend AAT, research on effects of such therapy and subsequent information work would be more warranted to avoid a profession or sex bias in which patients that are offered to join AAT.

The specific aims of the present study were to examine:

1. To which degree farmers and therapists have knowledge on and experience with Green care,
2. To which degree farmers and therapists believe that animals in general and farm animals in particular may have positive effects on psychiatric patients,
3. To which degree the therapists think working with farm animals may have better effects than other forms of occupational therapy,
4. Whether therapists think that such work might improve the patients' interactions with other humans,
5. Therapists' estimate of the proportion of their patients that might benefit from working with farm animals,
6. Whether there are sex differences in the therapists' attitudes to AAT,
7. Whether there are differences in attitudes to AAT among psychiatrists/psychologists vs. psychiatric nurses.

## Methods

### Subjects

Questionnaires were sent to two groups of professionals, 60 therapists and 15 farmers that were recruited related to a randomized controlled intervention study on effects on psychiatric patients of working with farm animals twice a week for 12 weeks. The therapists were recruited indirectly, by being the primary therapist of patients that expressed an interest in working with farm animals. The therapists are therefore assumed to form a representative sample of clinical professionals with about half of the therapists connected to psychiatric departments and half to municipal health services in six counties in South-Eastern Norway. The main diagnoses of the patients that were to participate in the research project were, according to ICD-10 (WHO 1992), schizophrenia and schizotypal disorders, affective disorders, and personality and anxiety disorders. Fifty female and 10 male therapists participated, working at psychiatric departments and municipal psychiatric health-care services in six counties in Southern Norway. Most of them were middle-aged (78% were 40–59 years, range 20–67 years). Psychiatric nurse was the predominating profession (Table 1). Most of the therapists (71%) had more than 10 years of experience with clinical work and only 10% had less than 5 years of experience.

Farmers with animal husbandry were informed of the project by the agricultural head of the counties and by the

**Table 1**  
Professions of the therapists

Profession	Number ( <i>n</i> )	Percent
Psychiatrist	5	8.3
Psychologist	5	8.3
Psychiatric nurse	27	45.0
Nurse of mentally subnormal	3	5.0
Psychiatric nurse auxiliary	3	5.0
College-trained social worker	7	11.7
Psychiatric child welfare worker	3	5.0
Occupational therapist	4	6.7
Environmental therapist	2	3.3
Specially trained teacher	1	1.6
Total	60	100

research group. After the information and 1 week of thinking, they decided whether they wanted to participate in the project or not. The farmers were told that the work would depend on the patient's coping ability and interest, and should include physical contact with the animals. The daily management would mainly consist of feeding, milking the cows, brushing the animals and cleaning the cowshed. The patients should only work with the animals; they were not allowed to do other kinds of farm work. Nearly all farmers (94%) that got the information on the research project were willing to join the project. Among the 15 recruited farmers there were seven women and eight men. Twelve of the farmers were between 30 and 49 years, one was between 20 and 29 years, and two were more than 50 years. Fourteen farmers (93%) had advanced education, mainly vocational training. Three of these had university education. Only two farmers had earlier experience with psychiatric patients. Nine of the farmers (60%) had full time occupation on the farm, while some had part-time work outside the farm. The median size of the farm was 10–30 hectares. The main productions were dairy cows ( $n = 10$ ), specialized meat production with cattle ( $n = 2$ ), sheep ( $n = 2$ ) or horses ( $n = 1$ ). All dairy farms had meat production with cattle in addition. Some also had sheep or horses. All farmers had small animals like rabbits, poultry, pigs, cats or dogs as a part of the milieu on the farm.

### Assessments

Two separate questionnaires were made to assess the therapists' and the farmers' degree of knowledge and attitudes to Green care with farm animals for persons with psychiatric disorders. In addition to demographic questions, the following four questions were presented to both groups: 'A: To which extent do you have knowledge about Green care?'; 'B: To which extent do you have experience with Green care?'; 'C: To which extent do you think animals in general can contribute positively to therapy for humans with mental disorders?'; and 'D: To which extent do you think work and

contact with farm animals give an additional effect that pet animals do not give?'. The therapists were asked the following additional questions: 'E: To which extent do you think animal-assisted therapy with farm animals can contribute to a better mental health than other types of occupational therapy can?'; 'F: To which extent do you think contact and work with farm animals can contribute to training of improved interactions with other humans?'; and 'G: Which fraction of your clients do you think can gain an advantage of animal-assisted therapy with farm animals?'. Questions A–F had four response categories: 1 'not at all'; 2 'to a small extent'; 3 'to a large extent'; and 4 'to a very large extent'. Question G had a 5-point scale: <5%; 5-10%; 11-25%; 26-50%; and >50%.

### Statistics

Data were analysed with the Wilcoxon Two-Sample Test, using the exact test in the NPAR1WAY procedure in SAS version 8.2 (SAS Institute Inc. 1999). The exact test is useful where the asymptotic assumptions are not met, and the asymptotic *P*-values are not close to approximations for the true *P*-values as in the small sample of farmers. The level of significance was set at  $P < 0.05$ .

### Results

An overview of the answers by the therapists and farmers to the six major questions (A–F) is presented in Table 2.

In both groups, most respondents had some or large knowledge about Green care (Question A). Their own experience with Green care was, however, generally low in both groups (Question B). No sex differences were found for these two questions, and there were no significant differences between therapists and farmers. As to whether animals can contribute positively to therapy (Question C), significant sex differences between therapists were found ( $Z = -2.35$ ,  $P = 0.018$ ). Fourteen female therapists (28%) believed animals in general to a very large extent could contribute positively to therapy, while none of the males was that positive. The attitude to AAT in general was positive among both the therapists and farmers, with farmers being significantly more positive than therapists ( $Z = 2.06$ ,  $P = 0.05$ ). All farmers believed that animals in general to a large or very large extent could add positively to the therapy.

A great majority of therapists believed that farm animals could have positive effects additional to those provided by pets (Question D). There were significant sex differences also for this question ( $Z = -3.00$ ,  $P = 0.003$ ). While 86% of female therapists believed so to a large or a very large extent, 40% of the males were that positive. The attitudes

**Table 2**

Knowledge, experience and attitudes to animal-assisted therapy (AAT) with farm-animals by therapists and farmers (distribution of scores)

Categories	<i>n</i>	Not at all (1) <i>n</i>	Some extent (2) <i>n</i>	Large extent (3) <i>n</i>	Very large extent (4) <i>n</i>
<b>A: Knowledge of Green care</b>					
Therapists	60	9	28	20	3
Farmers	15	0	9	5	1
<b>B: Experience with Green care</b>					
Therapists	60	40	20	0	0
Farmers	15	9	4	1	1
<b>C: Attitudes to AAT in general</b>					
Therapists	59	0	15	30	14
Farmers	15	0	0	9	6
<b>D: AAT with farm animals additional effect</b>					
Therapists	60	1	12	43	4
Farmers	15	0	2	11	2
<b>E: AAT with farm animals better than other occupational therapy</b>					
Therapists	59	1	18	39	1
<b>F: AAT with farm animals can contribute to better interaction with humans</b>					
Therapists	60	0	18	39	3

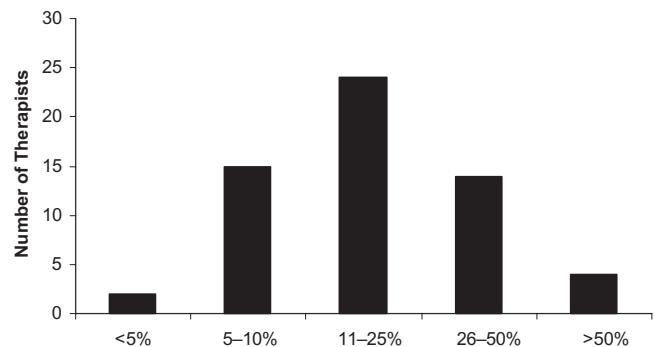
among the farmers generally agreed with those of the therapists, and there was no significant difference between the two professionals for this question.

As much as 64% of the therapists believed that AAT with farm animals to a large extent could contribute to better mental health than other types of occupational therapy (Question E), while 30% believed that to some extent. Only one of the therapists answered 'not at all'. The female therapists were more positive than their male counterparts, approaching statistical significance ( $Z = -1.99$ ,  $P = 0.058$ ).

While 30% of the therapists thought farm animals to some extent could contribute to increased skills in interactions with other humans (Question F), 65% believed this to a large extent and 5% to a very large extent. Female therapists were more optimistic about this than males ( $Z = -2.94$ ,  $P = 0.005$ ); 39 of 50 females were in these latter groups, while only three of 10 men were.

The proportion of their clients the therapists thought could gain an advantage of AAT with farm animals is given in Fig. 1. In general, the therapists felt that a substantial fraction of their patients would gain an advantage by such therapy, and almost all therapists would have some patients that could be eligible for this. There were no significant sex differences among therapists for this question.

There were only small differences between the therapists regarding experience with clinical work and knowledge of Green care programmes. While two of the six therapists with less than 5 years of clinical work had any knowledge with Green care to a large and very large extent, 20 of 53 (37.7%) of the therapists with more than 5 years of clinical work expressed this to a large and very large extent. The sample size in some age categories was small, so the results

**Figure 1**

The proportion of their patients that the therapists believe can gain an advantage of animal-assisted therapy with farm animals

must be interpreted cautiously. A comparison between psychiatrists/psychologists and psychiatric nurses did not show any significant differences related to the various questions on their attitudes to AAT.

## Discussion

In this study, therapists reported a rather strong belief in AAT in general, and that farm animals could have effects on patients that would be additional to those of pets. They also reported a strong belief that AAT with farm animals could be more beneficial than other forms of occupational therapy. Therapists had a strong belief that farm animals can contribute to training of improved interactions with other humans. Most therapists expressed that a substantial fraction (about one-fourth) of their patients could be suited for this kind of AAT. According to the diagnoses of the current patients, AAT with farm animals seems to be

beneficial for various categories of psychiatric patients with serious and long-lasting psychiatric disorders (schizophrenia, serious depressions and personality disorders), as indicated by the therapists' views. However, caution must be warranted to generalize that AAT with farm animals will be beneficial for all patients with serious psychiatric disorders, like e.g. disorders related to acute stress reactions and bipolar affective disorders in psychotic phase with extensive medication. Farmers were at least as optimistic as the therapists about effects of AAT with farm animals, although their low number warrants some caution as to the conclusions.

While the main aim of this study was to examine attitudes of AAT among farmers and therapists that had little or no prior experience with Green care before joining a research project, another Norwegian study addressed farmers that have offered AAT services for some time (Hønsen 2005). The age distribution of the farmers and the sizes of the farms corresponded to a high degree in these two studies, although the farmers being experienced with AAT on average had a higher education. In both studies the farmers believed strongly that AAT with farm animals would have positive effects on psychiatric patients.

Previous studies on incorporation of AAT within outpatient psychotherapy are somewhat limited. A rather old study of Rice *et al.* (1973) evaluated the extent to which animals were used by psychotherapists in USA as a whole. The findings of their study suggested that 21% of the clinicians used animals in conjunction with their psychotherapy, and the main reason was that the animals served as a vehicle for cultivating the positive nature of interpersonal relationships. Arkow (1982) suggested that the animal might act as a link in the conversation between the therapists and the clients, and a similar study of AAT with children (Katcher & Wilkins 1997) reported that a friendly animal presence made the children feel calmer and therefore more open to the therapeutic intervention. Our finding that 70% of the therapists believed that farm animals could contribute to improved interactions with other humans extends this suggestion beyond the client-therapist relationship. An Australian cross-sectional study recorded expectations of pediatric medical ward staff of different categories prior to and after a dog visitation programme (Moody *et al.* 2002). Prior to the programme, there were high staff expectations that the dog programme would distract and relax the children from their illness, and that it was a worthwhile project. Allied and non-clinical health staff was more positive about the programme than the doctors and nurses. In our study, we did not find significant results of differences between psychiatrists/psychologists and nurses, but the low number of psychiatrists and psychologists warrant caution in the conclusions.

We found consistent gender differences in attitudes to AAT among the therapists. This also corresponds with the study of Mason & Hagan (1999). There was no tendency towards any gender differences among the farmers, although a study of Porcher *et al.* (2004) reported that female farmers were more likely to demonstrate more compassion, empathy and closer attitudes to animals than male farmers. However, the same study also showed that farmers who had fewer than 50 dairy cows or 300 sows had higher scores of a friendship factor than those who worked with larger herds. In our study the herds were rather small, and may be the main reason for no gender differences in attitudes being observed among the farmers.

Our study could not relate answers by the therapists to their degree of attachment to pet animals. The attitudes to AAT may depend on early learning and/or personal experience and may differ according to the individual's perception of different types of animals.

The questionnaires in our study were designed to give a brief survey of the attitudes to AAT with farm animals before joining a research project. The majority of the therapists were positive to AAT with farm animals for psychiatric patients. The study warrants caution in concluding that therapists in general will be positive to intervention with farm animals. Further prospective studies are needed to get more detailed information on attitudes of AAT among therapists as a whole, and if therapists are as positive after experience with AAT as they are before. It would also be of interest to examine the differences and similarities between therapists that recommend AAT with farm animals and therapists that do not. In our questionnaire, we had no items related to exactly how farm animals can affect the patients. This could be addressed in future studies reflecting the nature of the client-animal interaction.

The sample sizes are small for the farmers, which were recruited because of their expressed willingness to invite psychiatric patients to their farm. Both the generally positive attitudes and the small differences between farmers and therapists warrant further work on developing more programmes on farm-animal assisted therapy.

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