Animal-assisted therapy in the view of staff members before and after implementation in a rehabilitation clinic.

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Animal-assisted therapy (AAT) is a method that is used with increasing frequency for patients with various problems in many rehabilitation programs. The success of such programs often depends on staff members' attitudes. However, there is little data investigating staff concerns about animal-assisted interventions and change of staff attitudes over time in a healthcare setting. The aim of this study was to investigate the attitudes of staff working in a Swiss rehabilitation center before and after the implementation of animal-assisted therapy. Before implementing animal-assisted therapy at a rehabilitation clinic in Basel, Switzerland, the expectations and concerns of the entire staff were assessed using a questionnaire with Likert scales and open questions. One year after the start of the program, staff members completed an analog questionnaire to assess actual experiences with including animals at the facility. Questionnaires were analyzed using descriptive statistics, non-parametric correlations, and comparisons of means. Prior to implementation of animal-assisted therapy, most of the clinic staff had positive expectations (91.1% positive feelings). However, a substantial number of staff anticipated problems with hygiene (30.0%) and injuries (37.9%). After implementation, significant less problems were noted (p < .001). The positive attitudes remained stable in the context of practical experiences (p = .680). Moreover, staff members were positively influenced by the presence of the animals. Staff members in healthcare settings have high acceptance of animal-assisted therapy. Actual experiences of the staff with animal-assisted therapy were more positive than their expectations. Anticipated problems were not reported after implementation and staff members expressed a positive influence from the presence of the animals, viewing it as enrichment to their job. Further research should investigate the effects of animal-assisted interventions to determine the potential for prevention of burnout in healthcare staff.

Key Words: Animal-assisted intervention, animal-assisted therapy, attitude, staff, rehabilitation

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Staff member attitudes toward animal-assisted therapy (AAT) are crucial to the success of animal-assisted programs. Currently, such programs are used with increasing frequency in the healthcare sector, especially within rehabilitation programs for patients with a broad range of problems. To maximize the success of these programs, it is important to understand staff attitudes toward animal-assisted intervention (AAI) and how their perceptions change after real experiences. With such knowledge, it is possible to plan and institute an animal-assisted intervention as already described by Barba (1995) for acute care settings.

Animal-assisted interventions are divided into animal-assisted therapy, animal-assisted education (AAE), and animal-assisted activity (AAA) programs (IAHAIO, 2014). The method of integrating animals into a therapeutic context is based on the known biopsycho-social health benefits of human-animal interactions. AAI research has documented these benefits over the last two decades, although some studies lack high quality designs (Kamioka et al., 2014).

Research related to the effects of animal-assisted therapy on healthcare staff is limited. Nonetheless, several studies focused on the perception of animal-assisted interventions by professionals in different healthcare settings, most often evaluating perceptions of nursing staff.

Moody and colleagues analyzed the attitudes of pediatric medical ward staff six weeks before and twelve weeks after the implementation of a dog visitation program in an Australian hospital (Moody, King, & O'Rouke, 2002). They found high staff expectations before the implementation of the program. Staff expected that the dogs would both distract the children from their illnesses and relax the children and that implementing the project would be valuable. Following the dog visitation program, expectations were confirmed. Allied health and other non-clinical staff were more positive in comparison to nursing and medical staff. Moreover, the staff stated that the ward was a happier place and that the work environment was more interesting (Moody, King, & O'Rouke, 2002). Kranz and Schaaf (1989) also investigated the development of staff attitudes in a nursing home. After four months 86% of staff members had more positive attitudes, while after eight months 91% of the staff was more positive than before the actual experiences (Kranz & Schaaf, 1989).

Most studies, however, were cross sectional, giving no data on change of staff's attitude. For example, Rossetti, DeFabiis, and Belpedio (2008) looked at behavioral health staff perceptions of animal-assisted therapy in a psychiatric hospital in Chicago, IL, USA. They collected qualitative data in an interview with nine health nurses and a counselor who had participated in dog-assisted therapy three months earlier. Results showed that nursing staff felt more positive and motivated, experienced less stress, and saw themselves as more cheerful and happy during the presence of the dogs. Moreover, the presence of a dog increased self-awareness and morale of the staff. This is in line with other findings. For example, similar effects were found on staff morale in a hospice (Chinner & Dalziel, 1991), and psychotherapists using animal-assisted therapy reported that their job satisfaction increased when a dog was present (Mason & Hagan, 1999). Nurses in a Canadian hospital-based dog-assisted therapy program for children with cancer stated that they felt happier and more motivated and that their work was facilitated (Gagnon et al., 2004). A survey in an Italian children's hospital where dogs were introduced into the wards revealed that 92% of the 52 staff nurses and doctors were in favor of the program, while 96% stated that the children benefit from contact with the dogs and 54% noted beneficial effects for the staff (Caprilli & Messeri, 2006). Marcus and colleagues found beneficial effects in staff members of an outpatient pain management

clinic after a therapy dog visit (Marcus et al., 2012).

A recent study in California assessed the staff attitude in a regional cancer center. Four weeks after initiating a dog-visiting program, the overall perception of healthcare staff members was positive. There was strong support to continue with the AAA. In this study, preconceived opinion regarding AAA was associated with the perception of the visitation's efficacy. Staff members strongly disagreed that the program created extra stress or work (Bibbo, 2013). The author concluded that staff member perceptions of AAA played a central role in their acceptance of the animal-assisted program (Bibbo, 2013).

Often, only staff who are actually participating in the program are involved in the surveys. However, in one study, 400 general practitioners, 400 psychiatrists, and 300 psychologists in Norway, most of whom had never employed AAI, were questioned regarding their attitude regarding the intervention (Berget, Grepperud, Aasland, & Braastad, 2013). Nonetheless, they were motivated to learn more about AAI and use it with their own patients. A large majority thought that AAI should be used more often in psychiatric treatment (Berget et al., 2013). Similarly, in a survey of 26 nursing students, 92% felt that AAI had positive effects on patients (Eaglin, 2008). The nursing students concerns were also assessed. Primary concerns were the possibility of patient injury (13%), allergies (17%), inadequate training of animals and staff (30%), acceptance by staff (20%), and possibility of animals being harmed (20%) (Eaglin 2008). In an Australian nursing home, 72.3% of the staff members were in favor of initiating an AAT program and felt it would not increase their workload (Crowley-Robinson & Blackshaw, 1998). However, there was already a dog living in this facility.

Apart from dog-assisted interventions, there are few studies concerning attitudes toward programs with other animals, such as farm animals. This is surprising since various institutions keep many different kinds of animals, including farm animals, either outside or smaller animals, like birds, fish, rodents, and cats, inside the facilities. In one study, 71 staff members at three dementia care units showed significantly higher job satisfaction after the introduction of an aquarium (Edwards, Beck, & Lim, 2014). Berget et al. (2008) examined the attitudes of psychiatric therapists toward animal-assisted therapy with farm animals, recruiting 60 therapists from psychiatric departments and municipal health services in Norway. The therapists had positive attitudes, believing that AAT with farm animals could contribute positively to therapy, increase interaction skills, and more effectively improve mental health than other types of occupational therapy.

The literature overview shows that staff members have positive attitudes toward animal-assisted interventions. However, in practice concerns and fears remain, especially when animals are introduced into medical settings, and there is a lack of data investigating healthcare staff concerns and fears. Development of the staff member attitudes over time and with real experiences are insufficiently investigated. Additionally, there is little data that addresses interventions with animals other than dogs.

This study was designed to investigate staff attitudes in a Swiss rehabilitation clinic. REHAB Basel introduced animal-assisted therapy with various species into its therapeutic concept in 2013. It was the first clinic in Switzerland to augment this process with a broad evaluation and scientific research. In the program, a broad variety of farm and companion animals are part of the intervention. The animals are housed full-time on site at the clinic. They are part of specific therapeutic interventions and "part of the multidisciplinary care provided to patients," as described by Rossetti and

colleagues (Rossetti et al., 2008). The objective of the animal-assisted intervention is to enhance the therapeutic opportunities for the therapists with their patients. The animal can be an intrinsic motivating stimulus for the patients, which facilitates achieving the rehabilitation goals.

The aim of this study was to analyze staff member attitudes toward animal-assisted therapy in a Swiss rehabilitation clinic before and after implementation of an AAT program with a wide variety of animals. Our hypothesis was that staff members would voice more concerns and fears before than after implementation and that positive attitudes would increase over time.

Material and Methods

Study design and procedure. This repeated cross-sectional study consisted of two questionnaires for staff members in a Swiss rehabilitation clinic which introduced an animal-assisted therapy program.

The first questionnaire was completed in March 2013. At this time, the employees at the clinic had not been informed about the upcoming project to integrate animal-assisted therapy into the therapeutic concept of the clinic. This first questionnaire concerned positive and negative expectations. The second questionnaire concerned the actual experiences, taking place in September 2014, after the clinic had implemented animal-assisted interventions for one year.

Both times, all staff members at the clinic were invited to fill in the questionnaire. Team leaders distributed the questionnaires to their employees. Filling in the questionnaire was voluntary, and it was possible to answer anonymously. We intended to assess the attitudes of the clinic staff as an entire group and were not able to control for individual change in attitudes. This limitation is described in the discussion section.

Setting. REHAB Basel is a clinic for neurorehabilitation and paraplegiology. It has 92 beds as well as an ambulatory clinic for patients with craniocerebral injury and paraplegia. About 400 patients, mostly adults, are treated at the clinic per year. Animal-assisted therapy was introduced in 2013, while hippotherapy has been part of the physiotherapy concept for 30 years. A therapy-animal garden which houses horses, donkeys, goats, sheep, mini-pigs, chickens, rabbits, guinea-pigs, cats, and birds was built adjacent to the clinic to implement the animal-assisted therapy program. A non-resident (visiting) therapy dog is also part of the team. Therapy sessions are held in the therapy-animal garden, either outside or in a dedicated therapy room with access for the animals, or in-house in the patient rooms. In-house sessions accommodate smaller animals or dogs. From the start of the program, significant resources were provided to integrate animal-assisted therapies into the therapeutic concept, which are currently widely accepted with an average of 25 therapy sessions taking place per week.

The animals are carefully selected and trained for interaction with the patients. The AAT program is part of a One-Health approach and therefore, specific hygiene and animal-health and welfare concepts exist. REHAB Basel follows the guidelines of the International Association of Human-Animal Interaction Organizations (IAHAIO) for definitions and animal-welfare (IAHAIO, 2014).

Participants. All healthcare and administrative staff members at the clinic were invited to participate, and 103 questionnaires were returned representing 24.5% of the staff at the clinic. In the second questionnaire, 165 staff members completed the questionnaire, with a return rate of 37.8% of total staff. Sample characteristics regarding different professions are reported in Table 1. Due to the study design, we could not control for individual changes on attitudes within a

person. Data reflect the attitudes of a staff group at a certain time-point. This must be considered in interpreting the results and is discussed in the study limitations section.

Table 1: Characteristics of the study sample before implementation (n=103) and after implementation (n=164) of the AAT program at REHAB Basel.

Profession	Questionnaire 1	Questionnaire 2
Therapists	42.7%	26.1%
Nurses	35.9%	16.4%
Physicians	3.9%	6.1%
Other	2.9%	37%
No profession indicated	14.9%	14.5%

Other: non-clinical ward staff, administration, service operation etc.

Instruments

The questionnaire was an anonymous investigator-developed questionnaire (BAMI – TGT: Basler Mitarbeiterfragebogen Tiergestützte Therapie). Items were generated by reviewing existing attitude surveys (Bibbo, 2013; Moody et al., 2002) and through discussion with a senior nursing person, the head physician at REHAB Basel, and health care staff from other institutions with experience in animal-assisted interventions.

First Survey. The questionnaire consisted of 16 standardized Likert scale questions with six answer possibilities from "not at all" to "very much" and six open questions to assess the staff's actual knowledge about AAT and their expectations of implementing it at the clinic (see Table 2).

High scores represent high approval of the question or statement (min=1, max=6). Psychometric properties of the questionnaire were investigated after administration and are reported below. The subscales "positive impact" and "negative impact" can be calculated with high scores representing high approval (min = 1, max=6).

Second Survey. The second questionnaire consisted of the same 16 items (with adapted tense formulation) building the same two subscales "positive impact" and "negative impact". In addition to these questions, seven multiple-choice questions and three open questions were added regarding feedback, changed experiences, and the personal benefit of the staff (see Table 3).

Table 2: Questions in the first and second questionnaires, building the two factors "positive impact" (subscale 1) and "negative impact" (subscale 2) with corresponding rotated factor loadings.

Question	Answer type	Subscale	Factor1	Factor2
How do you feel about the fact that AAT will be implemented?	Likert scale	1	**.470**	-.229
How is your own relation with animals?	Likert scale	-	.305	-.031
AAT enhances the value of the therapeutic concept.	Likert scale	1	**.803**	-.124
Patients will be disturbed by the animals.	Likert scale	2	-.042	**.739**
I look forward to the new therapy method.	Likert scale	1	**.793**	-.310
The animals will be loud and disturbing.	Likert scale	2	.144	**.788**
The patients will be afraid of the animals.	Likert scale	2	-.099	**.575**
Integrating animals into therapy can have an additional benefit.	Likert scale	1	**.834**	-.016
The presence of the animals will disturb me working.	Likert scale	2	-.217	**.656**
Patients will be happy about the animals.	Likert scale	1	**.792**	-.022
Hygiene problems will occur.	Likert scale	2	-.348	**.621**
The animals' smell will disturb.	Likert scale	2	-.258	**.731**
I will have more workload through the presence of the animals.	Likert scale	-	-.148	.177
I personally look forward to the animals.	Likert scale	1	**.845**	-.224
Problems like injuries and bites will occur.	Likert scale	2	-.194	**.665**
The presence of the animals will enrich my work.	Likert scale	1	**.625**	-.289
What do you think animal-assisted therapy is?	Open question			
What do you know about animal-assisted therapy?	Open question			
How do you feel about implementing animals in therapy?	Open question			
What areas of the REHAB Basel are taboo-zones for animals?	Open question			
What problems might occur?	Open question			
Important points that I want to add.	Open question			

Statistical analysis

We analyzed the data with SPSS, version 19.0. We used descriptive statistics to describe the staff attitudes. Spearman's correlation coefficients determined relationships between different answer categories and Wilcoxon signed-rank tests were used to investigate changes over time regarding the various items. Differences between professions were analyzed using Mann-Whitney-U tests. Phi was used as approximated effect sizes for the Wilcoxon signed-rank rests and the Mann-Whitney-U tests, while ρ was used as effect size for correlations.

A principal component analysis (PCA) was conducted on the 16 standardized Likert scale items with varimax rotation allowing for two factors (based on scree plot analysis) with listwise deletion of missing cases. Criterion for factor loading was set at 0.4. Internal consistency of the subscales was evaluated using Cronbach's α.

Table 3: Additional questions in the second questionnaire.

Question	Answer type
I work animal-assisted.	Yes / no / not yet
I have too little knowledge about AAT.	Likert scale
I would like to know more about AAT.	Likert scale
How has your attitude toward AAT changed?	Likert scale
I use the therapy-animal garden for myself (recreation).	Likert scale
I have the following feedback from patients.	Likert scale
I have the following feedback from relatives.	Likert scale
What problems did occur since the implementation of AAT?	Open question
What positive effects did occur since the implementation of AAT?	Open question
The following should be changed.	Open question

Answers from the open questions were analyzed systematically, then categorized. Multiple answers were possible. All returned questionnaires were included in statistical analysis. When two conflicting crosses were made within one question, we defined it as missing. No missing data were filled in. A *p*-value $\leq$ 0.05 was considered as statistically significant.

Results

Factor analysis and subscale reliability. The Kaiser-Meyer-Olkin (KMO) index of .75 verified the sampling adequacy. Bartlett's test of sphericity (χ^2 (120) = 547.72, p < .001) indicated that correlations between items were sufficiently large for PCA. The two extracted factors accounted cumulatively for 52.8% of the variance and were conceptually coherent. Table 1 shows the factor loadings after rotation. Factor 1 is named "positive impact" and concerns the positive aspects of AAT implementation. Factor 2 is called "negative impact" and represents potential adverse aspects of AAT implementation at the clinic. The two factors were analyzed for internal consistency as a subscale, using Cronbach's α. Both subscales showed good reliability

("positive impact": α = .83; "negative impact": α = .82).

Expectations of staff members. Analysis of the subscale "positive impact" revealed highly positive staff attitudes before the implementation of AAT (M = 5.16, SD = 0.67). Specific single item analysis showed that 91.1% of the staff had positive feelings about the fact that AAT would be implemented. While 97.0% stated that AAT enhances the value of the therapeutic concept, 81.3% thought that the presence of the animals would enrich their job.

The subscale "negative impact" showed that staff anticipated few negative aspects of AAT (M = 2.63, SD = 0.75). However, the single item analysis revealed that 35.7% of the staff thought that patients might be afraid of the animals. In addition, 30% of the staff anticipated hygiene problems and 37.9% anticipated problems of injuries or bites. No extra workload was anticipated by 89.6%.

Profession had no influence on the subscales ("positive impact": Z = -1.54, p = .123, φ = 0.167; "negative impact": Z = -0.45, p = .656, φ = 0.050). However, therapists thought that patients might be afraid of the animals significantly less often (Z = -1.96, p = .050, φ = 0.20) than

non-therapeutic staff members. The staff members' own relationship with animals was correlated significantly with the amount of pleasant anticipation of the new therapy method (Spearman's rho: 0.286, N = 98, p = .004) but not with the two subscales ("positive impact": ρ = -0.168, p = .123; "negative impact": ρ = -0.049, p = .659).

The open questions in the first questionnaire revealed that 27.9% of the staff knew little or nothing about animal-assisted interventions. However, 12.5% already had concrete knowledge of potential intervention forms. Patient rooms and ward areas (33.7%) were mentioned most often as "taboo-zones", while 19.2% mentioned the cafeteria and kitchen. In total, 18.3% thought that animals should be prohibited throughout the whole building, and 10.6% stated that there should be no "taboo-zones" for animals.

Actual experiences of staff members. In the second questionnaire, the subscale "positive impact" reflected high positive actual experiences (M = 5.22, SD = 0.64). The subscale "negative impact" showed little negative actual experiences (M = 1.72, SD = 0.64). Nearly 60% of the staff members stated that they still had too little knowledge about AAT, and 70.8% would like to learn more about AAT. Regarding feedback from patients, 81.1% of the staff members indicated it was positive, 17.9% said neutral, and 1.1% reported it as negative. Feedback from relatives was noted as positive by 78.1%, neutral by 21.8%, and negative by none according to statements by the staff. Additionally, 54.9% of the staff members stated that they used the therapy-animal garden and the presence of the animals for their own recreation, with 75.6% viewing the presence of the animals as enrichment to their job.

Therapists did not have different subscale ratings than non-therapeutic staff ("positive impact": Z = -1.342, p = .180, φ = 0.141; "negative impact": Z = -0.052, p = .959, φ = 0.046). However, single item

analysis revealed that therapists had more knowledge about AAT (Z = -3.40, p = .001, φ = 0.27) and that they experienced a greater extra workload compared with non-therapeutic staff (Z = -3.99, p < .001, φ = 0.32).

Wilcoxon signed-rank tests showed that there was no significant change in the amount of positive attitudes from the first to the second questionnaire (Z = -0.412, p = .680, φ = 0.054), but there was a significant reduction of negative attitudes (Z = -4.617, p < .001, φ = 0.759). Single item analysis of the second questionnaire revealed only 10.3% of the staff stated that patients were afraid of the animals (time effect: Z = -4.2, p < .001, φ = 0.59), while 7.5% stated hygiene problems (time effect: Z = -3.69, p < .001, φ = 0.47) and 5.8% noted problems like bites and injuries (time effect: Z = -5.93, p < .001. φ = 0.74).

Analysis of the open questions revealed that the therapists see the following as the main reasons for working with animal-assisted interventions: positive experiences (18.2%), enhancing patient motivation and positive emotions (18.2%), facilitating therapy specific goals (18.2%), providing distraction and variety (13.6%), enhancing social communication (9.1%), and facilitating contact with the patient (9.1%). As perceived effects, staff members most often stated emotional effects in patients (36.9%), followed by enhanced attractiveness of the clinic (12.6%), staff satisfaction (11.7%), social effects in patients (8.7%), and enhanced activity and alertness in patients (4.9%). In regard to problems, most often none were stated (48.5%), followed by organizational challenges (30.8%), and hygiene (12.1%).

Discussion

We found that staff members in the rehabilitation clinic had highly positive attitudes toward animal-assisted therapy. These positive expectations remained stable while negative expectations nearly disappeared in the context of actual

experiences. Results of the first questionnaire showed that staff members had a lot of goodwill and positive attribution to the implementation of AAT at the clinic. However, the number of staff members who anticipated possible problems concerning hygiene and safety of the patients was not insignificant. After having actual experience with the animals living at the facility, the attitudes toward animal-assisted therapy remained high, while negative aspects were reported significantly less often.

The highly positive attitudes of staff members toward animal-assisted interventions are congruent with other surveys in health care facilities (Caprilli & Messeri, 2006; Bibbo, 2013; Moody et al., 2002; Winkler, Fairnie, Gericevich, & Long, 1989). The finding that actual experiences of the staff were more positive than their expectations is in line with the results from previous studies investigating change over time (Moody et al., 2002; Kranz & Schaaf, 1989). It is unclear whether the stable percentages of positive attitudes represent a ceiling effect, since the vast majority of the staff already had positive attitudes before implementation of AAT. Actually, we had predicted that the high expectations might become more positive. But it is also possible that staff views are more realistic after having made real experiences and faced natural challenges when working with animals. In the first questionnaires, staff members anticipated surprisingly few problems. This might be due to the fact that they did not have a clear picture of what AAT involved. In agreement with our hypothesis, negative aspects were stated even less often in the second survey.

Although 7.5% of the staff still reported perceived hygiene problems and 5.8% reported problems like bites and injuries in the second questionnaire, no adverse events were actually registered by the project coordinator or the persons responsible for the program.

We did not find differences between therapeutic and non-therapeutic staff members on subscales in the first or the second questionnaire. However, we found that therapists were less concerned about patients' fearing the animals before implementation. After implementation, therapists had more knowledge about AAT but also experienced a greater workload than non-therapeutic staff members. This can be explained by the fact that in almost all cases it is the therapists who are actively involved in working with animals. Profession differences were also found in other surveys. For instance, Bibbo (2013) found that directly involved staff members had more positive perceptions of AAT. In another study, experienced therapists were less motivated to learn about AAI and less in favor of using AAI (Berget, Ekeberg, & Braastad, 2013). However, one survey revealed no differences across professions with regard to the motivation of AAI (Berget et al., 2008).

It was not surprising to find a correlation between staff members' own relationship with animals and the amount of positive anticipation toward AAT. It is important to consider the relationships with animals of involved staff and to respect these. For AAT to be successful, the involved therapists should have a good relationship with animals.

An interesting finding is the feedback that staff members themselves profit from the presence of the animals. This finding is in line with other surveys at different facilities (Edwards et al., 2014; Gagnon et al., 2004; Marcus et al., 2012; Mason & Hagan, 1999; Rossetti et al., 2008) and represents an important public health issue. It is assumed that this effect might also be seen in visitors to the clinic. Research that includes the view of relatives and focuses more on the ward climate is warranted. One study found that patients perceive a more positive atmosphere at the hospital as a result of pet visits (Wu, Niedra, Pendegast, & McCrindle, 2002).

We developed a measurement tool with good psychometric properties measuring both positive and negative

impacts of AAT on staff which can be used in future studies. It is not species-specific nor setting-specific. Therefore, it can be easily applied to other facilities that acquire animals or implement animal-assisted intervention programs.

Limitations

A clear limitation of voluntary surveys is the fact that it remains unclear whether the staff that filled out the questionnaires were more enthusiastic about AAT than those staff members who did not participate. The response rate increased from the first to the second survey, from 24.5% to 37.8%. This may represent greater staff involvement with the topic after implementation of AAT at the clinic. However, the two samples must be compared with caution since they differ with regard to proportion of professions. In the second questionnaire the portion of therapists was smaller relative to other profession groups. In return, more staff members associated with administration, IT, cleaning, and communication participated.

Another limitation is that it is unclear how the two samples relate. The possibility to answer anonymously is crucial to minimize response bias and was of great importance to our research question. Consequently, we were not able to control for individual change, and the captured change in attitudes reflects a change within the group of clinic staff members rather than an individual change. However, the response rate increased in the second questionnaire, and a certain overlap can be assumed.

Since the direction of change is in line with previous findings (Moody et al., 2002; Kranz & Schaaf, 1989) we assume that our data is not highly impacted by this self-selection.

In the presented questionnaires, no demographic information was included. This would be preferable for further research since other studies show that there can be gender differences regarding attitudes of AAT (Berget et al., 2008; Berget et al., 2013). Still, variation of attitudes seems to have greater within-sex than between-sex variation (Herzog, 2007), and sometimes no gender differences are found. In addition, future surveys should ask about pet ownership by the staff members. This may predispose their responses to animals, although Petrisca (2014) found only a non-significant trend between pet ownership and attitudes towards AAT in mental health practitioners.

Our results refer to attitudes and experiences with animal-assisted therapy that involves different species of animals. The animals reside on the clinic grounds but not inside the building. Smaller animals are brought into the clinic when patients are not mobile, but often the interaction of patients and animals takes place at separate zones in facilities of the therapy-animal garden. Therefore, our results cannot be generalized without exception to other facilities with animal visiting programs or when animals live directly in the ward.

Strengths

We looked at staff attitudes toward AAT in a pretest-posttest design. The results therefore reflect a change over time dependent on expectations or actual experiences. Healthcare facilities that want to introduce animals often face the problem of fears regarding hygiene and patient security. Our data shows that such anticipations are not stable. Also, we covered a broad range of potential problems of introducing animals in a clinic. The questionnaire was designed to measure both positive and negative impacts of AAT on staff. Another strength of the study is the combination of Likert scale questions with open questions. In this way we were able to get much more information, especially on topics that we did not anticipate. Our results show which different aspects are relevant to be included in discussion with involved persons and decision-makers and are

therefore relevant for healthcare facilities that want to establish animal-assisted intervention programs.

Our results close a relevant knowledge gap regarding staff attitudes toward animal-assisted interventions in healthcare settings. Although the effects in patients are central regarding interventions in healthcare settings, acceptance of methods from staff members should not be underestimated. The study also provides information on the direct impact the presence of animals has on staff members regarding job satisfaction. This is a highly relevant aspect to improve working conditions in healthcare facilities. Potential burdens of new interventions should be carefully assessed. On the other hand, possible mechanisms for enhancing job satisfaction can be found, as indicated by our results.

In this study, a program with a broad variety of animals is evaluated. Such data is needed since most studies focus on dog-assisted interventions despite the fact that institutions often incorporate different animals. Additionally, in this paper we provide a literature overview of recent studies that focused on staff attitudes toward animal-assisted interventions.

Conclusions

Staff members in healthcare settings have high acceptance of animal-assisted therapy programs. After having practical experiences, acceptance increases further.

Since research increasingly confirms positive outcomes in patients interacting with animals during their rehabilitation process, a growing number of facilities incorporate animal-assisted intervention programs. Based on our data, we conclude that staff acceptance is not a problem when implementing a well-planned AAT program in a clinic.

This survey shows that the presence of animals can improve job satisfaction. We suggest that AAT programs might, in addition, contribute to prevent burnout since there is a relation between job satisfaction and burnout risk in healthcare staff (Khamisa, Peltzer, & Oldenburg, 2013; Renzi, Tabolli, Ianni, Di Pietro, & Pudda, 2005). Results from the current study support previous findings that animal-assisted interventions can create a more comfortable environment for both patients and staff (Barba, 1995; Bibbo, 2013; Wu et al., 2002). However, additional data is needed to confirm this assumption.

Findings from our study may enhance staff and policy maker support of AAI programs in rehabilitation and hospital settings.

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