

# Animal-assisted therapy for middle-aged schizophrenic patients living in a social institution. A pilot study

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**Objectives:** To determine whether animal-assisted therapy is effective in the rehabilitation of middle-aged schizophrenic patients living in a social institution.

**Design:** A before and after study with nine-month treatment period.

**Setting:** Social institute for psychiatric patients.

**Subjects:** Seven schizophrenic patients living in the social institute.

**Interventions:** Weekly sessions of animal-assisted therapy for a nine-month period, each therapeutic session lasting for 50 minutes.

**Measures used:** The Independent Living Skills Survey assessed by an independent rater.

**Results:** After the completion of the therapy significant improvement in the domestic and health activities occurred.

**Conclusions:** Animal-assisted therapy seems to be helpful in the rehabilitation of schizophrenic patients living in a social institution.

## Introduction

Pet keeping is thought to have positive physiological, psychological and social effects.<sup>1</sup> Animal-facilitated activities can be indicated for cardiovascular disorders,<sup>2</sup> depressive states,<sup>3</sup> dementia<sup>4</sup> and institutionalized psychiatric patients.<sup>5</sup>

Within animal-assisted therapies (AAT), animals can enhance the development of the therapeutic rapport, make the therapeutic situation

more comfortable and they can serve as role modellers, social facilitators and amplifiers of emotional reactivity.<sup>6</sup>

Chronic schizophrenic patients have decreased levels of activity and social functioning,<sup>7</sup> and have poor social problem-solving strategies.<sup>8</sup> When institutionalized schizophrenic patients are compared with noninstitutionalized schizophrenics, they show a prominent and progressive disability.<sup>9</sup>

Our aim in this study was to evaluate the effects of animal-assisted therapy on institutionalized middle-aged schizophrenic patients. Our purpose was to enhance the adaptive functioning and to decrease the nonadaptive functioning of

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patients with the introduction of animal-assisted therapy.

## Methods

Patients were drawn from the Social Institute for Psychiatric Patients, Budapest, Hungary. The institute has 140 beds, treating mainly schizophrenic and mentally retarded patients, who are unable to live an independent life because of the severity of their disorder. Inclusion criteria were DSM-IV<sup>10</sup> diagnosis of schizophrenia, age between 18 and 65 years, duration of illness of more than 10 years, a score of 39 or more on the Scale for the Assessment of Negative Symptoms (SANS),<sup>11</sup> and signed informed consent. The SANS is widely used to assess the negative symptoms of schizophrenia, such as affective blunting, avolition, anhedonia and attentional impairment. Exclusion criteria were severe cognitive impairment measured by the Mini-Mental State Examination,<sup>12</sup> allergic reactions or physical illness exacerbated in the presence of animals.

The investigated group consisted of seven schizophrenic patients (four women and three men), average age of 43.6 years (29–58), duration of living in social institution seven years (4–22). There was no drop-out during the nine-month period of the therapy. The therapeutic staff consisted of a psychiatrist, a social worker, the dog and its owner.

The outcome measure of the therapy was a comparison of the Independent Living Skills Survey<sup>13</sup> (ILSS) fulfilled 7–10 days prior to first session and 7–10 days after the last one (interval = 273–280 days). The ILSS measures the living skills of chronic psychiatric patients, living with caregivers or in institutes, in eight areas (eating, grooming, domestic activities, health, money management, transportation, leisure, job-seeking or job-related skills), as rated by significant others or the facility staff. The items are formatted as a questionnaire to be completed using a six-point response scale focused on the frequency of certain behaviours occurring in the month before the assessment (never, sometimes, often, usually, always and no opportunity to perform). An additional five-point response scale measures the

degree to which a certain behaviour is a problem (never, occasionally, sometimes, frequently, always). Because the ILSS covers a broad spectrum of the patient's daily activity, the raters have to be persons who live with the patients. In our case the raters were nurses, who were not members of the animal-assisted therapy staff, for whom part of the daily routine work was the assessment of every patient from the social institute using the ILSS. They were not informed about the scope of the rating and assessed the patients from the animal-assisted therapy group as part of their daily routine. Thus the raters can be considered 'blind' raters. In our case there were 48 items out of the original 112 items in which there was no opportunity (N/O) for the patient to perform that behaviour (this was the case for the eighth area, job-seeking and job-related skills, because of the lack of jobs for the patients).

The therapy took place weekly for nine months, at the same time. Each session was 50 minutes long, and it was held in the garden of the institution or, in bad weather conditions, in the occupational room. At the beginning of each therapy the dog went around the patients asking 'for some affection', thereby enhancing social interactions and encouraging the patients. In this phase the patients could share their feelings and thoughts with the therapeutic staff. We continued with simple or complex exercises with the dog, which improved the patient's affective reactivity (facial expression, gestures, eye contact), speech (quality and volume) and concentration ability. The more complex exercises needed the co-operation of patients, so that a group-forming procedure could develop. As in other psychosocial rehabilitation procedures,<sup>14</sup> we used instrumental situations to obtain adaptive outcome in certain situations and also friendship situations, which managed to initiate and sustain social interactions and friendships. Thereafter the therapist encouraged the socially competent behaviour. With grooming and feeding the dog, the patients learned the needs of another living being. With physical activities the physical performance was elevated. With performing multiple and complex exercises, the attention and persistence elevated. Beside these effects, during the sessions, the patients were in a relaxed, positive inner state, they enjoyed the activities and

they started to act more and more spontaneously than before.

We used a paired-samples *t*-test procedure to compare the means of two variables (baseline and nine months) for our sample.

## Results

Tables 1 and 2 present the ILSS scores for the frequency of occurrence of behaviours and the degree of behavioural problems measured at baseline and at the end of the study. Paired-samples *t*-test supports that the group's ILSS scores improved after the completion of the therapy. In the areas of domestic activities and health the social skills improved significantly.

## Discussion

Our study demonstrates a positive effect of animal-assisted therapy for institutionalized middle-aged schizophrenic patients. Every area assessed by the ILSS changed positively, with significant changes in the domestic and health activities.

In the current literature we found only one study assessing the use of animal-assisted therapy in institutionalized schizophrenic patients,<sup>15</sup> the subjects being old (average age of 79 years) schizophrenic patients, whose activities of daily living improved after the introduction of the animal-assisted therapy.

**Table 1** Independent Living Skills Survey scores for the frequency of occurrence of behaviours at baseline and follow-up. Mean (SD) scores at each assessment point

	Baseline	9 month	<i>p</i> -value
Domestic activities	2.06 (1.18)	3.26 (0.74)	0.01
Health	2.71 (0.48)	3.40 (0.24)	0.01
Leisure	1.25 (1.31)	2.27 (1.11)	0.06
Money management	1.75 (1.10)	2.62 (0.98)	0.07
Transportation	1.67 (1.58)	3.06 (1.51)	0.11
Eating	3.78 (0.33)	3.98 (0.05)	0.15
Grooming	2.75 (0.80)	3.24 (1.16)	0.33

Scores range from 0 =never occurs to 4 =always occurs.

**Table 2** Independent Living Skills Survey scores for the degree of behavioural problems at baseline and follow-up. Mean (SD) scores at each assessment point

	Baseline	9 month	<i>p</i> -value
Domestic activities	0.97 (0.93)	0.37 (0.58)	0.01
Health	0.90 (0.77)	0.33 (0.66)	0.02
Leisure	0.52 (0.67)	0.48 (1.05)	0.78
Money management	0.81 (0.80)	0.44 (0.86)	0.09
Transportation	0.49 (0.66)	0.57 (1.51)	0.82
Eating	0.08 (0.11)	0.00 (0.00)	0.10
Grooming	1.03 (0.88)	0.75 (1.26)	0.48

Scores range from 0 =never a problem to 4 =always a problem.

It was a positive finding of our study that the patients' activities and skills changed positively not only during the therapeutic sessions, but also in the everyday life. One explanation for this generalization may be the improved emotional reactivity of the patients during the animal-assisted therapy sessions, as a consequence of the human-animal bond, which makes the therapy more efficient. The limitations of our pilot study are the low number of the patients and the lack of a control group. But it is important to note that our subjects were schizophrenic patients with severe impairment and disability, who were living in a social institute for a long time. Despite their lack of persistence in normal everyday activities, they participated in animal-assisted therapy for nine months and their compliance with the therapy was good throughout this period. We realized that they can form a strong bond with a therapeutic dog, and due to this strong human-animal bond, they became more motivated to participate in the rehabilitation therapy sessions. These observations, and the statistically

### Clinical messages

- Animal-assisted therapy had a positive impact on the living skills of patients with chronic schizophrenia, with significant changes in the activities related to domestic activities and health.
- The severely impaired patients formed a strong bond with the dog and participated regularly in the therapy, with no drop-outs.

justified positive improvement in the living skills of these patients, encourages us to continue our work and start a randomized controlled trial to assess the specific effects and a cost-effectiveness study to assess the financial benefits of animal-assisted therapy.

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