

THE EFFECT OF DOG THERAPY ON CHILDREN WITH DISABILITIES

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Abstract

Dog therapy is the use of specially trained dogs to achieve general well-being or treatment in different categories of people. Similar to other animals used for therapeutic purposes, dogs are accepting, offer comfort, do not condemn, and serve as great companions during treatment and therapy.

This research project is a qualitative study aimed at investigating the impact of dog-assisted therapy on students with disabilities. The implementation of the research took place within three months and focused in children with special needs, especially among children with speech impairments, motor disabilities, and socialization challenges between the ages of 7 and 8. The study was conducted by a special educator in collaboration with an experienced trainer at the Dog Center Avav Happy Dog in Skopje. The study sample comprised both a control and an experimental group, each consisting of three students with disabilities. The experimental group was subjected to therapy by applying a dog, while the control with a classic special education and rehabilitation treatment. Before the start of the treatment, a control assessment was made of the motor, and speech-language abilities and the way of behavior during the daily activities of the children, the same assessments were carried out halfway through the treatment (after 1.5 months) and at the end of the treatment. For each treatment group, treatment objectives were defined, depending on the results of the children's assessments, the groups were equalized according to the abilities of the respondents. Three dogs were used in the experimental group during treatment. The entire study process was monitored using audio and video recordings and photographs of the children.

Throughout and at the conclusion of this study the inclusion of a dog while carrying out special education exercises with children had a positive impact and gave better results in the treatment of children with developmental disabilities. That is, the presence of a dog, interaction, and talking with it gave children the will and desire to use speech in everyday activities. Then, the inclusion of a dog in the rehabilitation process for children with motor problems did not bring changes in motor development, but the dog motivated the children to participate in the therapy (exercises). Through the application of a dog in social interaction activities, we found that the presence of a dog enables a child-dog-peer social connection and that the children's interaction with each other is a positive aspect.

Keywords: dog therapy, disability, motor skills, speech, socialization

1. Introduction

The application of various therapies and activities for children with disabilities to improve their overall condition and the realization of daily activities is expanding. One of those therapies is animal therapy, specifically dog therapy.

Dog-assisted therapy is a goal-oriented and structured therapeutic intervention directed or implemented by health, educational, and professional professionals (Wohlfarth & Sandstedt, 2016).

It focuses on improving a person's physical, cognitive, or socio-emotional functioning. Human-animal interaction (canine companionship) was first used in the United States, (Washington, DC, 1919) at St. Elizabeth's Hospital (formerly the Insane Hospital), for soldiers with mental problems. Dr. Sigmund Freud even used his puppy in his practice. He believed that his dog could show the true character of a man. The dog will stay close to the patients who do not have tension and stress and stay away from those with stress. Freud

also used his dog to calm young patients with anxiety (Alliance of Therapy Dogs, 2018). According to Jeni Klonovski (2015) – dog therapy trainer, there are different types of dog therapy:

1. The first (and most common) are the dogs that make "Therapeutic visits". These dogs are pets whose owners take them to visit hospitals, nursing homes, and rehabilitation facilities. These dogs help individuals who have to stay at home due to mental or physical illness. A visit from a dog can brighten their day, lift their spirits, and help motivate them in their therapy or treatment to get out of the house.

2. The second type of dog therapy is called "therapy-rehabilitation dogs". These dogs assist physical therapists and occupational therapists in meeting goals important to an individual's recovery. For example, limb movement, fine motor control, and hand coordination.

3. Another type of dog therapy is called an "assistance-facilitator dog." These dogs primarily work in nursing homes and are often trained to help patients with Alzheimer's or other mental illnesses stay out of trouble. They are managed by a trained member of staff and live in the facility. This includes guide dogs for the blind, alert dogs for the deaf, mobility assistance dogs, diabetes alert dogs, seizure alert dogs, seizure assistance dogs, psychiatric dogs, support dogs for people on the autistic spectrum of disorder, support dogs for persons with fetal alcohol syndrome, allergy detection dogs (Klonowski, 2015). Some of the most common benefits of dog therapy are:

1. For physical health - lowers blood pressure, improves cardiovascular health, releases endorphins (oxytocin) which have a calming effect, reduces overall physical pain, the act of holding causes an automatic relaxation response, reducing the amount of medication needed to some people. 2. For mental health - lifts spirits and reduces depression, reduces feelings of isolation and alienation, encourages communication, provides comfort, increases socialization and sense of community, reduces boredom, reduces anxiety, helps children to overcome speech and emotional disorders, creates motivation for the client to recover faster, reduces loneliness. 3. To support literacy (reading) - helps children focus better, improves literacy skills, provides a stress-free, non-judgmental environment, increases self-esteem, reduces self-consciousness, and encourages a love of reading specifically and learning in general. 4. In physical therapy - increases joint range of motion, improves recovery time, maintains or increases motor skills, and provides motivation to move more, stretch farther, and exercise longer (PAWS, 2005).

Until now, in our country, in the Republic of North Macedonia, therapy with dogs has not been carried out for children with disabilities, which means that we are pioneers in this area. For this reason, in this research project, the effect of dog therapy on students with disabilities was discussed, specifically on those students who have problems in the area of motor skills, difficulties in speech-language abilities, and the way of behavior in daily activities.

2. Materials and methods

For the development of certain skills in the areas of motor skills, communication and speech, and socialization, we set special goals for each respondent or group of respondents with identical problems. In the area of motor skills, we set: differentiation of finger motor skills, maintaining balance, and climbing stairs without using hands for support; in terms of communication and speech we set: using Noun and Verb Sentences, storytelling in pictures and reading; in terms of socialization we set: expressing feelings and socializing with peers. The analysis of the data from this research was carried out through the adaptive behavior assessment system, specifically the Intervention and Assessment Scale II (Adaptive Behavior Assessment System - ABAS II), and through the ATLAS.ti program (a program for the qualitative analysis of textual, graphic, audio and video data).

3. Results and discussions

For the current study, before the start of the treatment, a control assessment of the motor, speech-language abilities and the way of behavior during the realization of the daily activities was made in 6 subjects or respondents, the data follows below:

Table 1: Results of the first assessment of students

Respondent	Domain	Sum score	Percentile score	GAC	Conf. interval	Qualita. Range
A.E*	Motor abilities	14	0.5	61	<70	Extremely low
	Communication	20	21	88	80-89	Below average
	Socialization	29	>90	120	120-129	Superior
E.S**	Motor abilities	17	2	69	<70	Extremely low
	Communication	14	5	75	71-79	Boundary line
	Socialization	46	>90	120	120-129	Superior
A.Sh***	Motor abilities	63	>90	111-131	71-79	Boundary line
	Communication	16	10	56	80-89	Below average
	Socialization	22	53	91	90-109	Normal line
E.M****	Motor abilities	62	>90	119-131	120-129	Superior
	Communication	6	0.2	25	≤70	Extremely low
	Socialization	20	47.3	83-89	80-89	Below average
Sh. B*****	Motor abilities	51	>90	111-131	110-119	Above average

	Communication	13	3	47	≤70	Extremely low
	Socialization	12	10	56	≤70	Extremely low
D.M*****	Motor abilities	47	82	105	90-109	Boundary line
	Communication	7	0.5	30	≤70	Extremely low
	Socialization	5	1	33	≤70	Extremely low

*From the above estimates, we note that respondent A. E. in the area of socialization, has the best results, that is, with a superior qualitative range; while in the field of motor skills, it has the worst results, that is, with extremely low results in the qualitative range, while the three areas of functioning tell us that the respondent E. S. in the area of socialization it has the best results, and in a superior qualitative range, while in the area of motor skills it is in an extremely low qualitative range.

From the results of the first assessment, we conclude that both subjects are the weakest in the area of motor skills, with a not very large result differentiation; while they are the best in the field of socialization, with the fact that the subject E. S. has a higher sum score in the specific area, ie 46 (superior), and subject A's sum score in the area of socialization. E. is 29 (superior).

*The above results of the first assessment in the three areas of functioning tell us that respondent A. Sh. is the best in the area of motor skills with a score of 63 (borderline), while in the area of communication, it has the worst results with a score of 16 (below average). The respondent E. M. is the best in the area of motor skills with a score of 62 (superior range), while she showed the worst results in the area of communication with a score of 6 (extremely low range).

From these results, we conclude that respondent A. Sh. has better results, i.e. below average in the qualitative range, in the area of communication than respondent E. M. whose results are in an extremely low qualitative range. Regarding the area of motor skills, both subjects are in a superior qualitative range without large differences between them.

*The above results of the first assessment in the three areas of functioning tell us that the respondent Sh. B. it is better in the area of motor skills with a sum score of 51, and it is worse in the area of socialization with a sum score of 12, which means that it is in an extremely low qualitative range. While, respondent D. M. Is the best with functional results in the area of motor skills with a total score of 47, while the weakest with functional results is in the area of socialization, i.e. with a total score of 5.

From the results above, we can conclude that the respondent Sh. B. has better results in the area of socialization, i.e. with a score of 12 (extremely low average) than his peer D. M. with a score of 5 (extremely low average). Also, the motor skills results show higher results in the respondent Sh. B. (above average), then with respondent D. M. with a borderline qualitative range of results.

Table 2: Results of the third assessment in students with motor disorders

Diagnosis: Cerebral palsy – hemiparesis										
Домен	Control group					Eksperimental group				
	Sum score	Percentile score	GAC	Conf. interval	Qualita. Range	Sum score	Percentile score	GAC	Conf. interval	Qualitat. Range
Motor abilities	23	9	55	<70	Below average	31	23	110	70-71	Above average
Communication	25	32	92	90-109	Average value	29	50	100	90-109	Average value
Socialization	29	>90	120	120-129	superior	48	>90	120	120-129	Superior

*The results of our research in the field of motor skills say that therapy with a dog helps children in such a way that it increases the motivation and desire to carry out activities, which to some extent show an overlap with the results of the research (Tepfer, Ross, MacDonald, Ruell, Raux, & Baltzer) in 2017, according to which dog therapy plays an important role in motor skills, physical activity, and quality of life. The authors concluded that the family dog can play a role in the healthy lifestyle of children with cerebral palsy. Then, the research of the authors Dilek Elmachi and Sibel Ćevizci in 2015, showed that dog-assisted therapies and activities can be a method of support for routine rehabilitation procedures for children with cerebral palsy and physical and mental disabilities. In contrast to the research above, in our research, we achieved the set goals in the field of motor skills through therapy using classical exercises. This means that dog therapy did not give better results than the application of therapy with classical exercises, but it showed great motivation and desire to complete the activities.

Table 3: Results of the third assessment of students with communication problems

Diagnosis: Severe and most severe degree of hearing impairment										
Domain	Control group (E. M.)					Eksperimental group (A. III.)				
	Sum score	Percentile score	GAC	Conf. interval	Qualita. Range	Sum score	Percentile score	GAC	Conf. interval	Qualitat. Range
Motor abilities	62	≥97	119-131	120-129	Superior	63	≥90	111-131	71-79	Boundary line
Communication	9	0.1	22	≤70	Extremely low	25	32	80	80-89	Above average
Socialization	25	≥90	108-131	90-109	Average	25	86	107	90-109	Average

The results of our research show that both dog therapy and classical exercise therapy were effective in achieving certain goals, which overlap with the results of the research Animal-Assisted Therapy for People with Aphasia, (Beth Macauley), where both therapies yielded results, with each participant meeting their goals. Other research: (Canine-assisted Speech Therapy for Children with Communication Impairments by Kristyna Machova, Petra Kejdanova, Iva Bajtlerova, Radka Prochazkova, Ivona Svobodova, Kamal Mezian), through an experimental and a control group, found that narrowing and closing the eyes, as well as filling the cheeks with air and smiling by the experimental group was significantly better than the control group. Therapy dog techniques and exercises can be a valuable tool to enhance the effect of speech therapy in children with speech disorders, and the reason for this is thought to be related to the nature of communication between children and companion animals.

Table 4: Results of the third assessment of students with social problems

Diagnosis: disharmonious development and antisocial										
Domain	Control group (D. M.)					Eksperimental group (III. B.)				
	Sum score	Percentile score	GAC	Conf. interval	Qualita. Range	Sum score	Percentile score	GAC	Conf. interval	Qualitat. Range
Motor abilities	50	≥90	108-131	90-109	Above average	55	≥90	111-131	110-119	Above average
Communication	12	2	40-41	≤70	Extremely low	14	5	50	≤70	Extremely low

Socialization	13	16	56-58	≤70	Extremely low	19	18	81-82	80-89	Below average
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Our results in the area of socialization showed us that therapy with the application of a dog gives quick and large results from the second assessment in the interaction and connection between peers, in contrast to therapy with the application of classical exercises where the results began to be seen after the third assessment of abilities. Our results overlap with the results of the qualitative research from Alison Ries, who says that animal therapy enables a quick connection between the child and animals, strengthens the therapeutic relationship, and improves family interaction. On the other hand, the research by Katie R. concluded that the impact of a dog's presence on students can be a positive tool for motivating good behavior and completing work. The analyzed surveys at the end of the research showed that the therapy dogs allow the children to feel safe and confident while performing the given tasks.

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