

# EQUINE ASSISTED THERAPY AND ATTENTION DEFICIT HYPERACTIVITY DISORDER A STUDY CASE

## INTRODUCTION

Equine Assisted Therapy (EAT) is delivered by therapists to different populations. In the case of Attention Deficit Hyperactivity Disorder (ADHD) there's a lack of research: the available studies document different approaches aiming to look for differences in nuclear symptoms of ADHD or in psychomotor competences, adaptive behavior or in social/emotional skills.<sup>1-8</sup> However, most part of these studies have a methodology focused on teaching equestrian skills and seem more related to sport approaches. These studies also have mixed results. This points to the need of designing studies with therapeutic content directed to the recommendations of intervention in ADHD such as working with family and school environments, concerning the endophenotype associated with the impact of difficulties in executive functioning, reward system and sensation seeking.

## AIM

To analyse changes in executive functioning of a child with ADHD during Equine Assisted Therapy intervention.

## METHOD

**PARTICIPANT:** We followed a boy diagnosed with ADHD (Combined Presentation), aged 10 and 8 months. He lives with both parents and a sister and was at 5<sup>th</sup> grade. He was referred for Equine Assisted Therapy by his teacher due to behavior difficulties, low academic performance, poor adherence to classic therapies (Psychology and Methylphenidate<sup>®</sup>) and motivation for interacting with animals. Parents also mentioned hyperactivity, excessive difficulty when waiting for new events and distraction. Parents expected to see behavior regulation and calm while child expected the same and to learn about driving, feeding and bathing horses.

**ASSESSMENT:** We applied an Admission Interview, the *Behavior Rating Inventory of Executive Functioning* (BRIEF; parents and teacher forms) and some tasks of *Cognitive Assessment System* (CAS). The interview was conducted in June 2015 (T0) and the other instruments were applied in the same period and in May 2018 (T1).

**INTERVENTION:** EAT was conducted with weekly 30 minute sessions. The intervention type was instrumental<sup>9</sup>, with elevated structure<sup>10</sup> and followed the main principles of psychomotor intervention. First the child was accompanied by a leader, a psychomotor therapist and an instructor when necessary. When he was driving the equine autonomously he was only with the therapist and again with the instructor when necessary. We used mainly a high pony, with rhythmic walking, specialized training and with calm, tolerant and consistent temperament. The sessions were divided into four moments: initial talking, vaulting (at the beginning) or ludic task proposed by therapist, free task and relaxation. Contact was maintained with teacher and parents during the intervention process to discuss needs, strategies and progress.

## RESULTS

			Mother (raw score)		Father (raw score)		Teacher (raw score)	
			T0	T1	T0	T1	T0	T1
BRIEF	Clinical Scales	Inhibit	25	20	22	17	25	19
		Shift	11	11	15	15	13	15
		Emotional Control	22	21	16	20	22	15
		Initiate	18	13	18	12	14	15
		Working Memory	22	19	24	21	17	19
		Plan/Organize	21	24	20	22	19	19
		Organization Materials	13	12	13	13	13	12
		Monitor	21	16	15	16	25	20
Indexes	Behavioral Regulation	58	52	53	52	60	49	
	Metacognition	95	84	90	84	88	85	
	Global Executive Composite	153	136	143	136	148	134	
Validity Scales	Negativity	Accepta.	Accepta.	Accepta.	Accepta.	Accepta.	Accepta.	
	Inconsistency	Accepta.	Accepta.	Quest.	Accepta.	Accepta.	Accepta.	

  

	Scales	Subtests	T0 (Scaled Score)	T1 (Scaled Score)
			CAS	Planning
Planned Connections	7	10		
Simultaneous	Nonverbal Matrices	6		8
Attention	Expressive Attention	16		12
	Number Detection	8	11	
	Receptive Attention	13	12	
Successive	Word Series	7	8	

## DISCUSSION AND CONCLUSION

The positive results were found in ADHD nuclear symptoms and in behavior and interpersonal relationships like other teams shared<sup>3,4,6</sup>. The negative or minor impact results may be due to insufficient intervention and transition to a higher school level, besides the assessment conditions. Still, there are changes in executive functioning and there are signs of generalization to school and family contexts in some domains. The main limitations relate to study design and inconsistency in intervention delivery in some sessions. In the future these studies should be done with larger samples and strong methodologies.

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