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A CASE STUDY ON PREVENTION AND MANAGEMENT OF ATTENTION DEFICIT HYPERACTIVITY DISORDER

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ABSTRACT
Attention deficit hyperactivity disorder (ADHD) is a commonly diagnosed childhood disorder characterized by impulsivity, inattention and hyperactivity. It is not a mental disorder, infect behavioral disorder. Its symptoms got noticed at an early age and may become more noticeable at an early age and may become more noticeable when a child circumstances changes as when they start school. According to Indian journal of psychiatry, Prevalence of ADHD among primary school children was found to be 11.32%. Prevalence was found to be higher among males 66.7% as compared to females (33.3%). It can not be compared directly to any disease of *ayurveda*, but it can be treated as *vataja unmad*, as symptoms appeared similar. A 6 years old boy brought by his grandparents with complaint of easy irritable nature, Aggressive, Lack of concentration, not sitting in a place for more than 5 minutes. After seeing condition, *Shirodhara, matra basti, nasya and shaman aoushadis* were advised. After completion of treatment, remarkable changes have been observed. **Aim-** Efficacy of Ayurvedic treatment in ADHD.
Material And Method- A case was enrolled in IPD of *kaumarbhritya deptt*. in Mahatma Gandhi ayurvedic hospital, wardha on 16/9/19 and subjected to *panchkarma* procedures ,interval medications.
Observations And Results-Appetite improved, Start communicating others, Start giving social smile, Agressiveness reduced.

KEYWORDS: ADHD, *Vataja unmada, shirodhara*.

INTRODUCTION
Attention deficit hyperactivity disorder is a behavioral disorder of children that comprises perhaps 50% of referrals to child neurologists, behavioral pediatricians and child Psychiatrists. It is characterized by Inattention, with increased distractibility and difficulty in sustaining attention, poor impulse control and decreased self inhibitory capacity as well as motor over activity and motor restlessness.[1]

Causes- A number of factors may contribute to ADHD
1) Genes- ADHD seems to run in at some families. At least one third of all fathers who had ADHD in their youth have children with the condition.
2) Cigarette smoking, use of alcohol by mother during pregnancy.
3) Low birth weight, Premature born with brain injury are at risk.[2]

Symptoms - Child with ADHD show on going pattern of three different types of symptoms.
A) Difficulty paying attention (Inattention) - Lack persistence, easily distracted, Difficulty sustaining focus, disorganized.
B) Hyperactivity and Impulsivity-Unable to sit still, especially in calm or quiet surroundings, Excessive physical movement, Excessive taking, Having trouble to wait for his or her turn, Interrupting conversation.[3]

In *Ayurveda*, there is no direct correlation for ADHD, but according to its symptoms, it can be compared with *Vataja unmada* and *Anavasthitachittatwa(Vatavyadhi)*.[4]

MATERIALS AND METHODS

A case was enrolled in IPD of *kaumarbhritya deptt*. in Mahatma Gandhi ayurvedic hospital, wardha on 16/9/19 and subjected to one week *panchkarma* procedures, interval medications, and follow at a gap of one month, 2nd time IPD admission for one week *panchkarma* treatment and *shaman aushadhi.* Classical texts of *ayurveda* and modern texts including internet are used as source material in the study.

BASIC INFORMATION OF PATIENT

Name-xyz	Socio-economic status-poor
Age-6 years	Opd No.- 1900018855
Sex-Male	Ipd No.-1911010005
Religion-Hindu	Informant-Grandparents
Address-Chattisgarh	

Pradhan vedana vishesha **(Chief complaints)**- Hyperactive, Lack of concentration, Easy irritable, Frequent fall while running, unable to speak sentence since at 2 years of age with associated complaint of less eye contact, aggressive, lack of response to name, noticed at 2 years of age.

Vartamanvyadhivruttant- (H/O Present Illness)- Child was apparently normal. Gradually grandparents noticed changes as after attaining 3 months of age, he has not achieved neck holding, after that, delay in all milestone have noticed. Then they start noticing hyperactivity, aggressive, not concentrate if any picture is shown to him, on calling his name, he don't respond, easily irritable, frequent fall while running, unable to sit at one side since 2 years of age. They also revealed that child is passing urine and stools unknowingly till age.

Birth History- Antenatal-premature rupture of membranes Natal- L.S.C.S, Birth weight-2.5 kg, cried 2 hours after birth, after 6-7 hrs history of seizure for 5-10 minute duration. Post Natal- NICU stay for 15 minutes

Treatment history - Not any treatment taken **History of Immunization** - Properly given as per age. **Family History (*kulaja vruttant)* -** Nothing significant.

Growth and Development History

S. NO	Parameters	Milestones	Attained age	Normal limit
1.	**GROSS MOTOR**	Neck holding	1 year	3 months
		Sitting with support	10 months	5 months
		Sitting without support	1 and half year of age	9 months
		Stand without support	24 months	12 months
		Walk without support	2 and half year of age	13 months
2	**FINE MOTOR**	Pincer grasp	Not achieved till now	8 months
		Bidextrous Approach	2 years of age	5 months
3	**LANGUAGE**	Cooing	2 and half year	3 months
		Monosyllabus (ma,ba)	6 years	6 months
4	**PERSONAL-SOCIAL**	Waves bye bye	1 year	9 months
		Recognised mother	1 year	3 months

Vaiyaktika vruttant (Personal history)

Appetite	Poor
Bowel	Once-twice a day
Urine	normal, 5-6 times /day
Sleep-	Sound

Examination

General	Vitals was normal, general condition of patient was poor, hyperactive, inattention.
Systemic examination	
CNS	Orientation-Conscious, but not oriented about time, place, age
Reflexes	Normal
CVS	S_1S_2 Audible
Respiratory system	chest clear
P/A	Soft, No distension, No Organomegaly

Dashvidha Pariksha

Nadi	*80/min*
mala	*Nirama*
mutra	*Samayak*
Jihva	*Niram*
Drik	*No pallor*
Akriti	*Hina*
Shabad	*Aspashat*
sparsh	*Anushana*

Arthropometry

Weight	13 kg
Height	108 cm
Head Circumference	50 cm
Chest Circumference	53 cm
Mid arm circumference	14 cm

Samprapti Ghataka

Dosha	*Vata, Pitta*
Dooshya	*Rasa, Ashta mano bhava*[5]
Agni	*Manda*
Srotas	*Rasavaha, Manovaha*[6]
Sadhyata/Asadhyata	*Krichsadhya*
Vyakat sthan	*Sarva Sharira*
Roga swabhav	*Chirkari*

Diagnosis - DSM-5 criteria is followed because of its broader spectrum. In making diagnosis, Children should have six or more symptoms for 6 months.[7]

Treatment Protocol- *Medhya Vata Anulomana Brimhana Balya Panchkarma procedure*-(Ist IPD admission-16/9/19 - 23/9/19)

***PANCHKARMA* PROCEDURES-IST SITTING**		
S.No	**Therapy**	**Medicine used**
1	Shirodhara followed by shiroabhyanga	Brahmi tail+ til tail
2	Utsadan	Dashmool tail +Vacha churna for 2 days
3	Sarvang abhyanga	Dashmool tail (after 3 days)
4	Nadi swedana	With Dashmool Kshaya for 3 days
5	Matra basti	Dashmool tail for 8 days
6	Nasya	Brahmi tail from Ist day
	2nd sitting	1/11/19 to 7/11/19
1	Utsadan	Dashmool tail Triphala churna for 2 days
2	Sarvang abhyanga	Dashmool tail (From 2nd days)
3	Nadi swedana	With Dashmool Kshaya for 3 days
4	Matra basti	Dashmool tail 15 ml from ist day

SHAMAN AOUSHAD

S.no.	**Formulation**	**Dose**	**Anupana**
1	Bramhi ghrit	2 tsf (empty stomach) early morning	Lukewarm water
2	Syrup Mentat	5 ml BD(after food)	Water
3	Saptamrit louh	½ tab Bd(after food)	Water
4	Vacha+Yashtimadhu+Kantkari+trikatu	1 pinch of each for lehana	Honey
2ND SITTING			
1	Sarasavarihta with gold	2 tsf Bd(after food)	Milk
2	Ashwagandha churna	½ tab Bd(after food)	Honey
3	Yashtimadhu+Vacha churna+Kantkari churna	1 pinch each 4 times a day	Honey

4	Brahmi Vati	1tab Bd after food	Water
5	Kalyanak ghrita	10 ml twice a day(after food)	With milk
6	Tab krimikuthar rasa	1 tab twice a day(after food)	With water

RESULTS AND OBSERVATIONS

After Ist sitting	**After 2nd sitting**
Start giving social smile, start eye contacting	Not fall while running
Appetite improved	Respond towards his name
Start listening parents instructions	Start communicate with others
Agressiveness reduced	Now tell to go for toilet

DISCUSSION

In ADHD, as mentioned earlier *Prakupita vata dosha* involved that leads to affect *manovaha srotas*. So main mode of treatment to bring balance *vata dosha.Vata anulomna*, *medhya*, *balya*, *rasayana*, increases cognitive power, boost memory and helps in concentration. *Kalyanakghrita* indicated in *unmadaprakrana*. Drugs in it have *vatashamak*, brain calming properties. Even *ghrit* is heavy to digest, majority circulation may go to stomach, leads to decreased flow to hyperactive brain, resulting in calmness of mind and also *ghrita* will have omega 3 and 9 essential fatty acids which are useful for cortical expansion and maturation.

Shirodhara is best treatment to reduce stress, restore, damaged nerves, and improves memory and cognitive functions exhibit syphilitic effects.[8]

Matra basti- *Basti* is complete treatment *of vata dosha*. It acts on whole body through gut brain axis ,reducing stress, anxiety, regulate changes in behavior and emotions.

CONCLUSION

As discussed, it is not a mental disorder, it is behavioral disorder, so along with symptomatic treatment, counseling is needed. Child should encourage to do activities which he like the most. ADHD cannot be cured completely but with proper management, number of episodes can be reduced.

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Before Treatment (Checklist according to American Psychiatric Association)
Appendix 1: ADHD Rating Scale

ADHD Rating Scale

Child's Name: XYZ Age: 6years Date: 16/9/19

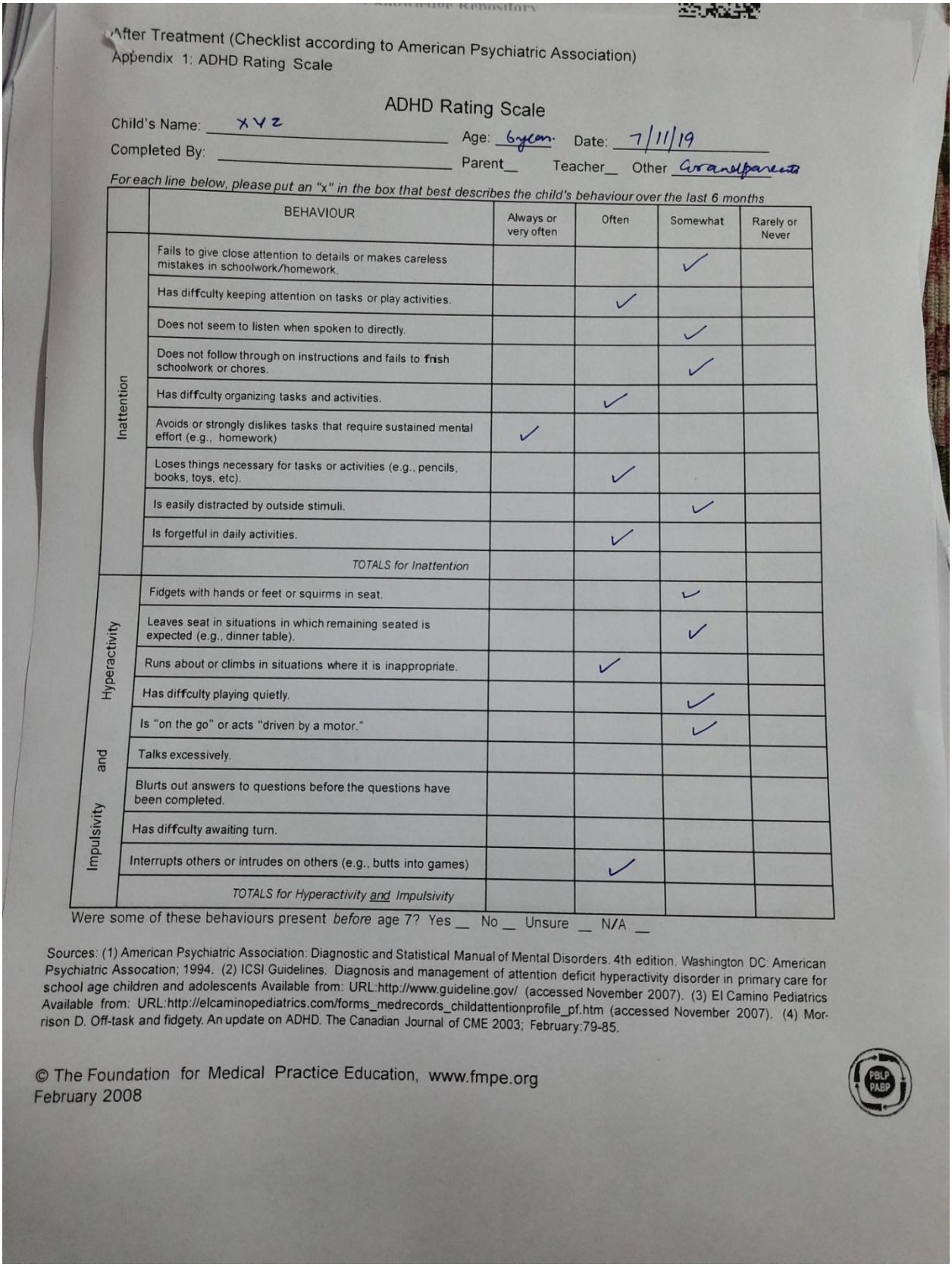
Completed By: _____ Parent__ Teacher__ Other Grandparents

For each line below, please put an "x" in the box that best describes the child's behaviour over the last 6 months

	BEHAVIOUR	Always or very often	Often	Somewhat	Rarely or Never
Inattention	Fails to give close attention to details or makes careless mistakes in schoolwork/homework.	✓			
	Has difficulty keeping attention on tasks or play activities.	✓			
	Does not seem to listen when spoken to directly.	✓			
	Does not follow through on instructions and fails to finish schoolwork or chores.	✓			
	Has difficulty organizing tasks and activities.	✓			
	Avoids or strongly dislikes tasks that require sustained mental effort (e.g., homework)	✓			
	Loses things necessary for tasks or activities (e.g., pencils, books, toys, etc).	✓			
	Is easily distracted by outside stimuli.	✓			
	Is forgetful in daily activities.	✓			
	TOTALS for Inattention				
Hyperactivity and Impulsivity	Fidgets with hands or feet or squirms in seat.	✓			
	Leaves seat in situations in which remaining seated is expected (e.g., dinner table).		✓		
	Runs about or climbs in situations where it is inappropriate.	✓			
	Has difficulty playing quietly.		✓		
	Is "on the go" or acts "driven by a motor."	✓			
	Talks excessively.				
	Blurts out answers to questions before the questions have been completed.				
	Has difficulty awaiting turn.				
	Interrupts others or intrudes on others (e.g., butts into games)	✓			
	TOTALS for Hyperactivity and Impulsivity				

Were some of these behaviours present *before* age 7? Yes __ No __ Unsure __ N/A __

Sources: (1) American Psychiatric Association: Diagnostic and Statistical Manual of Mental Disorders. 4th edition. Washington DC: American Psychiatric Association; 1994. (2) ICSI Guidelines. Diagnosis and management of attention deficit hyperactivity disorder in primary care for school age children and adolescents Available from: URL:http://www.guideline.gov/ (accessed November 2007). (3) El Camino Pediatrics Available from: URL:http://elcaminopediatrics.com/forms_medrecords_childattentionprofile_pf.htm (accessed November 2007). (4) Morrison D. Off-task and fidgety. An update on ADHD. The Canadian Journal of CME 2003; February:79-85.



After Treatment (Checklist according to American Psychiatric Association)
Appendix 1: ADHD Rating Scale

ADHD Rating Scale

Child's Name: XYZ Age: 6 years Date: 7/11/19

Completed By: _____ Parent__ Teacher__ Other Grandparents

For each line below, please put an "x" in the box that best describes the child's behaviour over the last 6 months

	BEHAVIOUR	Always or very often	Often	Somewhat	Rarely or Never
Inattention	Fails to give close attention to details or makes careless mistakes in schoolwork/homework.			✓	
	Has difficulty keeping attention on tasks or play activities.		✓		
	Does not seem to listen when spoken to directly.			✓	
	Does not follow through on instructions and fails to finish schoolwork or chores.			✓	
	Has difficulty organizing tasks and activities.		✓		
	Avoids or strongly dislikes tasks that require sustained mental effort (e.g., homework)	✓			
	Loses things necessary for tasks or activities (e.g., pencils, books, toys, etc).		✓		
	Is easily distracted by outside stimuli.			✓	
	Is forgetful in daily activities.		✓		
	TOTALS for Inattention				
Hyperactivity and Impulsivity	Fidgets with hands or feet or squirms in seat.			✓	
	Leaves seat in situations in which remaining seated is expected (e.g., dinner table).			✓	
	Runs about or climbs in situations where it is inappropriate.		✓		
	Has difficulty playing quietly.			✓	
	Is "on the go" or acts "driven by a motor."			✓	
	Talks excessively.				
	Blurts out answers to questions before the questions have been completed.				
	Has difficulty awaiting turn.				
	Interrupts others or intrudes on others (e.g., butts into games)		✓		
	TOTALS for Hyperactivity and Impulsivity				

Were some of these behaviours present *before* age 7? Yes __ No __ Unsure __ N/A __

Sources: (1) American Psychiatric Association: Diagnostic and Statistical Manual of Mental Disorders. 4th edition. Washington DC: American Psychiatric Assocation; 1994. (2) ICSI Guidelines. Diagnosis and management of attention deficit hyperactivity disorder in primary care for school age children and adolescents Available from: URL:http://www.guideline.gov/ (accessed November 2007). (3) El Camino Pediatrics Available from: URL:http://elcaminopediatrics.com/forms_medrecords_childattentionprofile_pf.htm (accessed November 2007). (4) Morrison D. Off-task and fidgety. An update on ADHD. The Canadian Journal of CME 2003; February:79-85.