



# A SUCCESS CASE REPORT ON AYURVEDA MANAGEMENT OF ATTENTION DEFICIT HYPERACTIVE DISORDER

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## **ABSTRACT**

Attention Deficit Hyperactive Disorder (ADHD) is one of the most common neurodevelopmental disorders. It can be roughly analysed under *Vataja Unmada* due to similarity in the presentation. *Matruja Ahara* and *Vihara* plays an important role in the development of the child's *Sattva*. A case study is presented here where 'Diagnostic and Statistical Manual-5 criteria' for Attention Deficit Hyperactive Disorder was used to diagnose and assess the condition. A comprehensive approach of *Vataja Unmada Chikitsa* along with *Nasya*, *Abhyanga*, *Shirodhara* and *Ayurveda* psychological counselling was implemented to treat this case. The treatment resulted with reduction in the inattention and hyperactive symptoms and improvement in the quality of life.

## **KEY WORDS**

ADHD, *Vataja Unmada*, *Kalyanaka Ghrita*, *Vatagajankusha Rasa*, *Nasya*, *Shirodhara*.

## **INTRODUCTION**

Attention Deficit Hyperactive Disorder is a neurodevelopmental disorder characterised by impairing levels of inattention, disorganization and hyperactivity or impulsivity. Inattention and disorganization results in inability to stay focused, seeming not to listen and losing materials at levels that are inconsistent with age and developmental level. Hyperactivity-impulsivity includes overactivity, fidgeting, inability to stay seated, intruding into others' activities and inability to wait for their turn— symptoms that are excessive for age or developmental level. It can often persist into adolescence and adulthood with impairment of social, academic and occupational functioning. In most cultures, it occurs in about 5% of children and 2.5% of adults. About 80% of children with ADHD improve on their own by puberty, although a few (about 15-20%) may have persistent symptoms even in adulthood. The occurrence is more common in males than in females with a ratio of roughly 2:1 in children and 1.6:1 in adults. Females are more likely to present with inattentive features than hyperactive features<sup>(1)</sup>. The prognosis of the condition depends on a number of psychosocial factors. As per the modern science, the management requires psychostimulants and case-specific psychosocial interventions<sup>(2)</sup>. *Unmada/ Unmatta* represents broad classes of mental disorders in *Ayurveda* literatures. When the *Udgata Doshas* deviate from their path and enter the *Manovaha Srotas*, it causes *Manobhramana* which results in *Unmada*<sup>(3)</sup>. Attention Deficit Hyperactive Disorder can be roughly analysed under *Vataja Unmada* due to similarity in the presentation. The prognosis of the condition is usually good when one *Dosha* is predominantly involved in the manifestation of the disease. Through *Ayurveda* approach, basic *Vata Upakrama* along with *Samanya Unmada Chikitsasutra*- involving *Shodhana*, *Shamana* and *Sattvavajaya*- are implemented and intended to give better outcome.

## CASE REPORT

A male child aged 8 years, was found to be hyperactive and inattentive at the age of 2 years. His parents noticed that he was unable to recognize them and speak even single syllable word till the age of 2. He was given speech and occupational therapy for two years after which he started speaking sentences of 2-3 words. After therapy, hyperactivity slightly reduced but the attention area needed a lot of improvement. Currently, as per the mother, the child has the habit of teeth grinding, nail biting, peeling of lips, excessive talking, inability to focus, disobedience to commands and bed wetting. He also has complaints of constipated bowel. But sometimes, despite having the urge to pass bowel, he does not evacuate the bowel on his own until forced by his parents for the same. The child is very stubborn and gets angry for minute reasons. All other physical developmental milestones of the child are normal for age.

Family history- His paternal grandmother is under medication from the past few years for a psychiatric illness.

Birth history- Born at full term, LSCS delivery was done due to overweight of the baby. During her pregnancy, the mother was under excessive emotional stress which resulted in her weeping frequently. Few of her desires during pregnancy were unfulfilled by the family which emotionally hurt her. Stressful emotional status continued even after delivery.

For these complaints, the boy was admitted to our hospital.

### General Physical Examination

Built	Hyposthenic
Nourishment	Undernourished
Pallor	Present
Pulse	76 bpm
Respiratory Rate	22/minute
Blood Pressure	110/70mmHg
Height	3'8"
Weight	18Kg
BMI	6.5

### Systemic Examination

Central Nervous System	Higher Mental Functions intact Consciousness- intact Orientation to time, place, person – intact Cranial nerves- within normal limits
Cardio-Vascular System	S1 S2 heard No added sounds
Respiratory System	Normal vesicular breathing sounds heard No added sounds
Gastro-Intestinal System	Per abdomen- soft, non-tender No organomegaly

### Personal History

Appetite	Reduced
Bowel	Once in a day, only after being forced by the parents.
Sleep	Sound
Micturition	2-3 times/day

### Ashta Sthana Pariksha

<i>Nadi</i>	<i>Vatapittaja</i>
<i>Mutra</i>	<i>Prakruta</i>
<i>Mala</i>	<i>Vegadharana, sometimes Vibandha</i>
<i>Jihva</i>	<i>Alipta</i>
<i>Shabda</i>	<i>Prakruta</i>
<i>Sparsha</i>	<i>Prakruta</i>

<i>Drik</i>	<i>Prakruta</i>
<i>Aakriti</i>	<i>Krisha</i>

**Samprapti Ghataka**

<i>Dosha</i>	<i>Tamas, Udana, Samana and Apana Vata</i>
<i>Dushya</i>	<i>Manas, Rasadhātu</i>
<i>Agni</i>	<i>Vishamagni</i>
<i>Ama</i>	Absent
<i>Srotas</i>	<i>Manovaha, Rasavaha</i>
<i>Srotodushti</i>	<i>Atipravritti</i>
<i>Adhishthana</i>	<i>Hridaya, Buddhi</i>
<i>Rogamarga</i>	<i>Madhyama</i>
<i>Vyakta sthana</i>	<i>Sarva sharira</i>

**Intervention**

Patient was treated with a comprehensive approach of *Vataja Unmada Chikitsa* along with *Nasya, Abhyanga, Shirodhara* and *Ayurveda* psychological counselling.

**Oral Medications Advised on Discharge**

S.N.	Drugs	Dose	Duration	Anupana
1	<i>Kalyanaka Ghrita</i>	5mL-0-5mL	30 days	Lukewarm water
2	<i>Ashwagandha Avaleha</i>	5g-0-5g	30 days	Warm milk
3	<i>Vatagajankusha Rasa</i>	1-0-1	30 days	Normal water

**Panchakarma Procedures**

S.N.	Panchakarma Procedures	Duration	Drugs used
1	<i>Nasya</i>	7 days	<i>Ksheerabala 101 Taila</i>
2	<i>Shirodhara</i>	7 days	<i>Himasagara Taila</i>
3.	<i>Abhyanga followed by Bhaspa Sweda</i>	7 days	<i>Dhanwantara Taila</i>

**RESULTS****DSM – V Diagnostic Criteria for ADHD<sup>(1)</sup>**

<u>CRITERIA</u>	<u>BT</u>	<u>AT</u>	<u>FOLLOW UP</u> (After 2 months)
<b>INATTENTION</b>			
a. Often fails to give close attention to details or makes careless mistakes in schoolwork or other activities	Present	Improved by 30%	Improved by 50%
b. Often has difficulty sustaining attention in tasks or play activities	Present	Improved by 30%	Improved by 50%

c. Often does not seem to listen when spoken to directly	Present	Improved by 40%	Improved by 60%
d. Often does not follow through on instructions and fails to finish schoolwork or chores	Present	Improved by 20%	Improved by 50%
e. Often has difficulty organizing tasks and activities	Present	Improved by 30%	same
f. Often avoids, dislikes, or is reluctant to engage in tasks that require sustained mental effort	Present	Improved by 30%	Improved by 60%
g. Often loses things necessary for tasks or activities	Present	Improved by 20%	Improved by 30%
h. Often easily distracted by extraneous stimuli	Present	Improved by 30%	Improved by 40%
i. Often forgetful in daily activities	Present	Improved by 40%	Improved by 50%
<b>HYPERACTIVITY AND IMPULSIVITY</b>			
a. Often fidgets with or taps hands or feet or squirms in seat	Present	Improved by 50%	Improved by 80%
b. Often leaves seat in situations when remaining seated is expected	Present	Improved by 40%	Improved by 70%
c. Often runs about or climbs in situations where it is inappropriate	Present	Improved by 40%	Improved by 50%
d. Often unable to play or engage in leisure activities quietly	Present	Improved by 20%	Improved by 40%
e. Often acting as if driven by a motor/ on the go	Present	Improved by 20%	Improved by 30%
f. Often talks excessively	Present	Improved by 30%	same
g. Often blurts out an answer before a question has been completed	Present	Improved by 30%	Improved by 40%
h. Often has difficulty waiting for their turn	Present	Improved by 40%	Improved by 60%
i. Often interrupts or intrudes on others	Present	Improved by 30%	Improved by 40%

**Ashta Vibhrama Assessment**<sup>(4)</sup>

<b><u>VIBHRAMA</u></b>	<b><u>BT</u></b>	<b><u>AT</u></b>	<b><u>FOLLOW UP</u></b> (After 2 months)
<i>a. Mano Vibhrama</i>	Present	Improved by 50%	Improved by 70%
<i>b. Buddhi Vibhrama</i>	Present	Improved by 40%	Improved by 60%
<i>c. Sanjnajyana Vibhrama</i>	Present	Improved by 50%	Improved by 60%
<i>d. Smriti Vibhrama</i>	Absent	-	-
<i>e. Bhakti Vibhrama</i>	Absent	-	-
<i>f. Sheela Vibhrama</i>	Present	Improved by 60%	same
<i>g. Cheshta Vibhrama</i>	Present	Improved by 50%	Improved by 60%
<i>h. Aachara Vibhrama</i>	Present	Improved by 40%	Improved by 50%

## DISCUSSION

To obtain a healthy progeny, it is very important to take care of the health of the mother. Any emotional stress and unfulfillment of desires during pregnancy can lead to negative impact on the development of the foetus<sup>(5)</sup>. Based on the predominance of the *Dosha* during pregnancy and the predominance of the *Dosha* in the gametes, physical and mental constituency of the progeny will be decided. As per DSM-5, the diagnosis of ADHD can be confirmed by the presence of 6 or more inattention and hyperactivity features each, persisting for at least 6 months to a degree that it is inconsistent with developmental levels and negatively impacts routine activities<sup>(1)</sup>. The modern science does not specifically elicit any cause for ADHD and considers a combination of factors responsible, one among them being the genetics. This has resulted in no actual cure for ADHD, though it can be managed with behavioural therapy, stimulant medication like Dexamphetamine, Methylphenidate; clonidine, tricyclic antidepressants (like imipramine), counselling and supportive psychotherapy<sup>(2)</sup>. The prognosis of ADHD depends on several psychosocial factors. In *Ayurveda*, before planning any treatment, *Nidana Panchaka* - *Nidana*, *Purvaroop*, *Roopa*, *Upashaya* and *Samprapti* (five-folds of disease pathogenesis) are used to effectively diagnose a disease. Even for psychological disorders, first the predominance of the *Manasa* and *Shareerika Dosha* involved is analysed and the treatment is planned accordingly. The psyche of the foetus develops in the fifth month of pregnancy<sup>(5)</sup>. Unfulfillment of desires/ involvement of the pregnant lady in unhealthy practices and improper care for daily regimen of the child are the predominant *Nidana* (aetiology) in this case. At the age of 2, the child had hyperactive behaviour for the age which can be understood as the *Purvaroop* (premonitory symptom). The current manifestation is the *Roopa* (diagnostic features). Adopting any of the *Vata Dosha* palliating measure shows reduction in the symptoms and is understood as *Upashaya* (relieving factor). The possible *Samprapti* (etiopathogenesis) can be viewed as, frequent emotional stress and grief in the mother resulted in aggravation of *Vata Dosha*, which in the fifth month played a crucial role in the development of the child's *Sattva* (psychic development), the outcome of which can be seen in this case as ADHD. The presence of 6 out of 8 *Vibhrama* (agitation) differentiates this case to be considered as *Unmada*. In *Ayurveda*, any *Vibhrama* is treated on the line of treatment of *Unmada* itself. Hence, through *Ayurveda* the condition can be effectively managed. *Sahaja Bhavas* (birth traits) are difficult to change but the impact it causes can be effectively reduced by appropriate measures.

The probable mode of action of the selected treatment is as follows:

1. *Kalyanaka Ghrita*- in this formulation, 15 *Dravyas* have *Tikta rasa*, 12 have *Madhura rasa*, 10 each with *Katu* and *Kashaya rasa* and 2 with *Amla rasa*. 22 *Dravyas* are *Laghu* and 8 are *Guru*. 18 *Dravyas* have *Katu Vipaka*, 9 *Dravyas* have *Madhura Viapaka* and 1 *Dravya* has *Amla Vipaka*. 12 *Dravyas* are *Kaphapittahara* (pacifies *Kapha* and *Vata*), 8 *Dravyas* are *Tridosahara* (pacifies *Vata*, *Pitta* and *Kapha*), 4 *Dravyas* are *Kaphavatahara* (pacifies *Kapha* and *Vata*), 1 each are *Kapharaktahara* (pacifies *Kapha* and *Rakta*), *Vatahara* (pacifies *Vata*), *Vataraktahara* (pacifies *Vata* and *Rakta*), *Vatapittahara* (pacifies *Vata* and *Pitta*). Apart from this, *Haritaki* is *Deepani* (improves appetite), *Medhya* (promotes intellect), *Rasayana* (increases *Dhatu* quality) and *Brhmani* (nourishes the body). *Amalaki* is *Rasayana* in nature. *Shalaparni* is *Rasayana* and *Brhmana*. *Shweta Sariva*, *Krishna Sariva* and *Bhadrela* are *Deepana*. *Dadima* is *Brhmani* and *Medhya*. *Priyangu* is indicated in *Bhranti* (Insanity) and *Moha* (delusion)<sup>(6)</sup>. The logic behind using this formulation in the current condition is to mainly utilise the *Vatahara* property and at the same time cause *Brhmana*, *Deepana*, *Rasayana* and increase *Medha*. Lukewarm water as *Anupana* aids in easy digestion and assimilation of the formulation.
2. *Ashwagandha Avaleha*<sup>(7)</sup>- this formulation has a specific action on *Vata Dosha* and at the same time increases *Kapha Dosha* thereby increasing body weight and muscle mass. When used after food with warm milk as *Anupana* (adjuvant), it will help in controlling the *Chala Guna* of *Vata*. This will further help in reducing the Hyperactivity/ impulsivity symptoms and at the same time it will aid in improving the Body Mass Index.
3. *Vatagajankusha Rasa*<sup>(8)</sup>- this formulation balances *Vata* and *Kapha Dosha*. When given in *Vyana Kaala* (after food), it helps in bringing down the symptoms caused due to *Vata Prakopa*.
4. *Nasya*- nostrils are considered as the doorway to the brain. Stipulated way of instillation of medicated formulation will show significant action on the brain functions<sup>(9)</sup>. *Shiras* is the *Adhishthana* of *Manas*. Anything that reaches the *Shiras* should therefore properly regulate the functioning of the *Manas* as

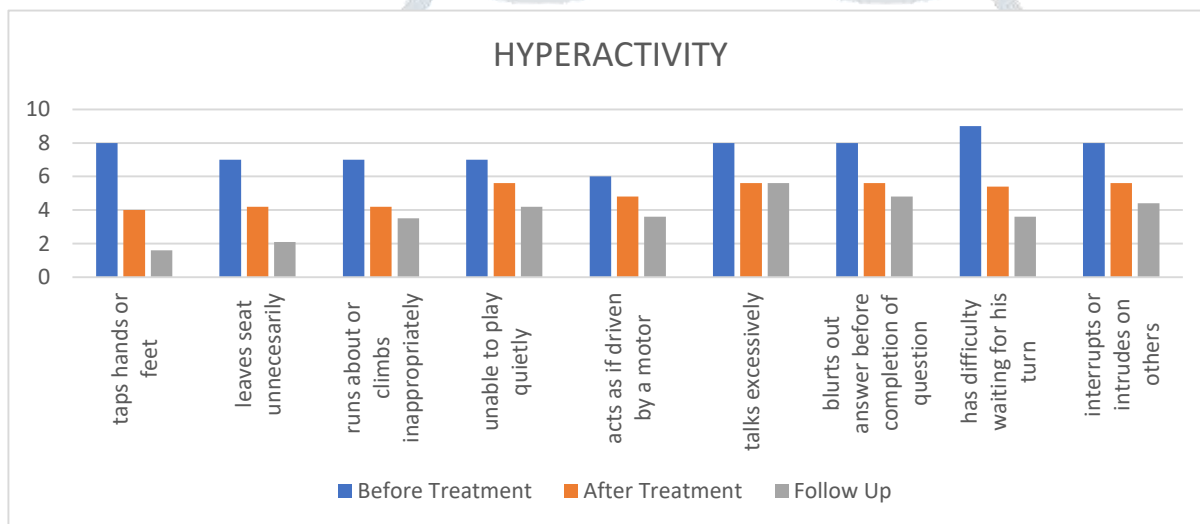
well. 101 *Avarta Ksheerabala Taila* pacifies *Vata* and thereby helps in controlling the *Chanchalatva* of *Manas*.

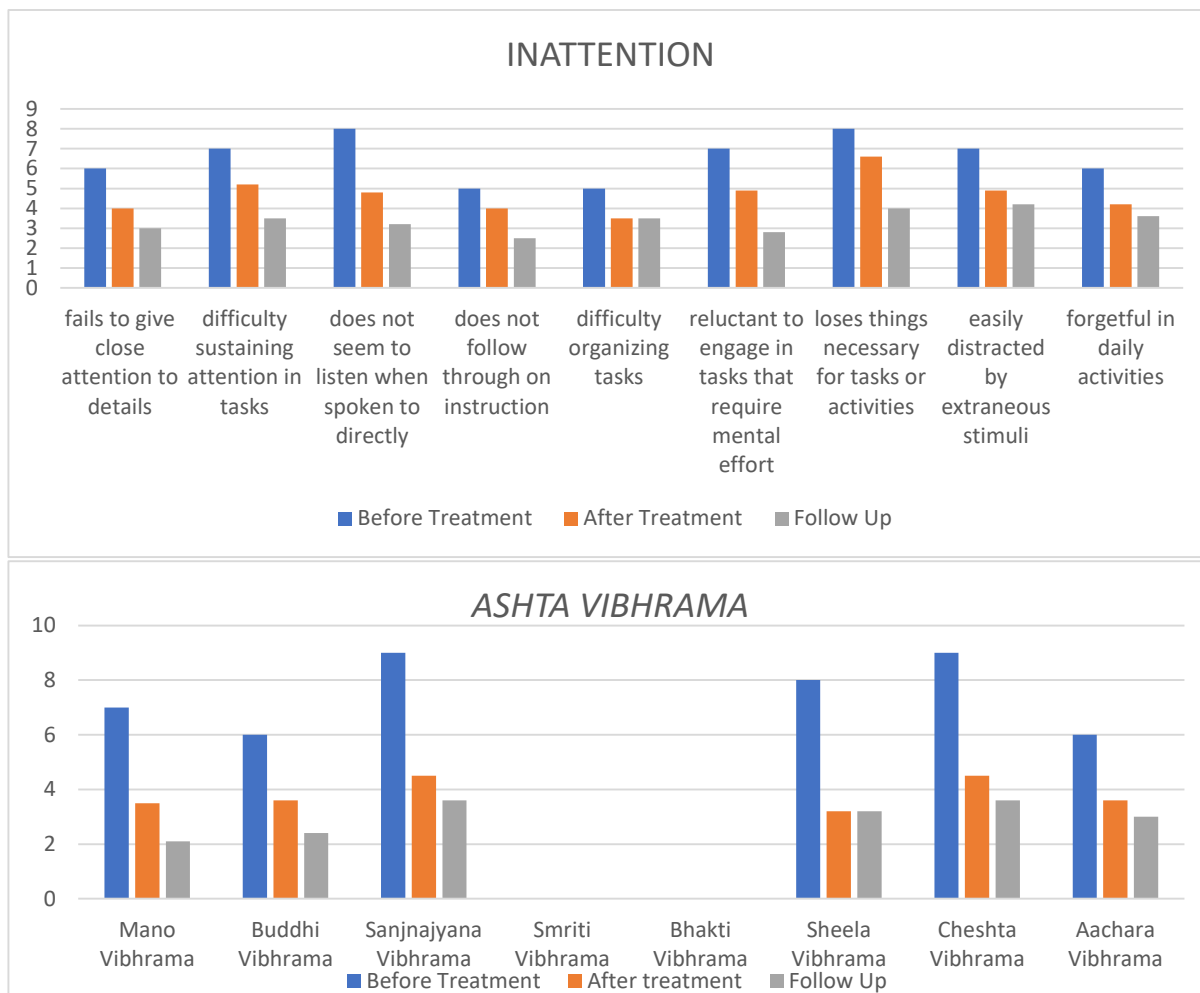
5. *Shirodhara* - is used routinely for conditions like insomnia, headache, migraine, anxiety and stress. Among the various media used, maximum stress reducing effects are observed through oil as the medium. Its effects are found to be similar to the meditative state, reduction in catecholamine and increased reuptake of serotonin<sup>(10)</sup>. *Himasagara Taila* improves cognitive and psychological functions<sup>(11)</sup> especially when it is used for *Shirodhara*.
6. *Abhyanga and Bhaspa Sweda* - It enhances the strength and bulk of the muscle tissues as well as improves *Vyana Vata* functions. *Dhanwantara Taila* does *Vata* and *Kapha Shamana*. It can be effectively used in *Bala* and in *Grahonmada*<sup>(12)</sup>.

## **CONCLUSION**

The treatment protocol of *Vataja Unmada* resulted in good improvement in the ADHD patient even though ADHD does not completely comply with the symptoms of *Vataja Unmada* as, in *Ayurveda*, all kinds of psychological disorders fall under the capsule of '*Unmada*' itself which are assessed by *Ashta Vibhrama*.

Comparison of the results in terms of reduction in the symptoms of ADHD Before and After *Ayurveda* treatment is as follows:





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