

A Review of Attention Deficit Hyperactivity Disorder (ADHD) in the Light of Ayurveda with Special Reference to Vataja Unmada

Dr Vanshika Dhama

PG Scholar, Department of Kaumarbhritya, State Ayurvedic College and Hospital, Lucknow, U. P. - 226001, India

Abstract: *Attention Deficit Hyperactivity Disorder (ADHD) is a common neurobehavioral disorder of childhood, often persisting into adulthood, characterized by inattention, hyperactivity, and impulsivity that affect academic, social, and family life. Prevalence varies with age, gender, and subtype, with males and the combined type being more commonly reported. In Ayurveda, ADHD can be correlated with Vataja Unmada, arising from vitiation of dheer, dhriti, and smriti, leading to disturbed sensory coordination (Asatmendriyarthasamyoga). While modern treatment mainly relies on dopaminergic stimulants, Ayurveda offers a holistic approach through herbal and herbo-mineral formulations, medicated ghrithas like Kalyanaka Ghrita and Abhaya Ghrita, and Panchakarma therapies such as Shirodhara, Nasya, and Basti. Herbs like Brahmi, Yashtimadhu, Guduchi, and Jyotismati have shown effectiveness, making Ayurveda a promising management strategy for ADHD.*

Keywords: ADHD, Unmada, Buddhi, Dhee, Smriti, Hyper Activity, Impulsivity

1. Introduction

Attention Deficit Hyperactive Disorder (ADHD) is one of the most prevalent neurodevelopmental disorders, with symptoms typically appearing in early childhood and often persisting into adolescence and adulthood. It is characterized by pervasive patterns of inattention, hyperactivity, and impulsivity that interfere with functioning across academic, occupational, and social domains.^{1,2,3} These children will have difficulty in following the instructions and sustaining attention, often seem not to listen to what is being said, lose items frequently, are easily distracted, are fidgety, have a difficult time remaining and often engage in physically dangerous activities, does not remain in their seats in school, have difficulty awaiting their turn, impulsively blurt out answers to questions, shift rapidly from one uncompleted activity to another, talk excessively, intrude on others.⁴ First formally described by Sir George Still (1902) as a "defect of moral control". Recognized by DSM-5 as a heterogeneous condition with distinct presentations. ADHD is not a new condition and has been called different names throughout history. It was labelled as 'minimal brain dysfunction' in the 1930s and has ever since changed names to ADD and ADHD, respectively.⁵ Its prevalence has increased over time, with a seeming spike in the 1950s as school became more standardized for children. It is usually diagnosed at 3-4 years of age. As per the DSM-IV criteria, it is important to diagnose and treat the disorder at a young age so that the symptoms do not persist into adulthood and cause other comorbid conditions. The treatment for the disorder is mostly related to stimulants and psychotherapy.⁶

Epidemiology: Prevalence: Children: ~5–7% worldwide, it is prevalent in around 3%–6% of the adult population.⁷

Gender differences: The disorders (collectively) are found in a 2:1 male-to-female ratio as per different research.⁸

Risk Factor

ADHD in children is caused by several factors, including genetics and environment, premature birth, preeclampsia,

hypertension, overweight, and obesity in pregnant women, as well as maternal smoking exposure.^{9,10} Family history studies have also shown that drug abuse plays a significant role in the development of ADHD.¹¹ There are no consistent findings on brain imaging of patients with ADHD. The number of dopaminergic receptors has also been implicated in the development of the disorder, whereby research has shown that the receptors are decreased in the frontal lobes in individuals with ADHD.^{1,12} There is also evidence for the role of noradrenergic receptor involvement in ADHD.

Types of ADHD³

- 1) Inattentive type: symptoms of inattention.
- 2) Hyperactive/impulsive type: symptoms of hyperactive and impulsive behaviour.
- 3) Combined type: both inattention and hyperactivity.

Clinical Features³

Examples of inattentive and hyperactive/impulsive behaviour included within the criteria for diagnosis of ADHD

Inattentive behaviour

- 1) Early distraction by extraneous stimuli
- 2) Often makes careless mistakes in schoolwork or other activities
- 3) Often has difficulty sustaining attention in tasks or play
- 4) Often forgetful in daily activities
- 5) Does not seem to listen to what is being said to him
- 6) Often fails to finish schoolwork or other chores
- 7) Daydreams, becomes easily confused, and moves slowly
- 8) Difficulty in processing information as quickly and accurately as others

Hyperactive behaviour

- 1) Runs about or climbs excessively in situations where it is inappropriate
- 2) Fidgets with hands and feet and squirms in seat
- 3) Talks nonstop
- 4) Has trouble sitting still during dinner, school, and story time

- 5) Has difficulty doing quiet tasks or activities.

Impulsive behaviour

- 1) Has difficulty awaiting turn in games or group situations
- 2) Blurts out answers to questions
- 3) Often interrupts conversations or others' activities at least 6 months, be pervasive (present in at least 2 different settings) and impair the child's ability to function normally.

The symptoms should not be secondary to another disorder.

Three subtypes are known:

- a) **Predominantly hyperactive-impulsive.** Most symptoms (6 or more) are in the hyperactivity-impulsivity categories, and less than 6 symptoms of inattention are present.
- b) **Predominantly inattentive.** The majority of symptoms (6 or more) are in the inattention category and less than 6 symptoms of hyperactivity-impulsivity are present, although hyperactivity-impulsivity may still be present to some degree. Parents or teachers may not readily recognize these children as having a problem.
- c) **Combined hyperactive-impulsive and inattentive.** These children have six or more symptoms each of inattention and hyperactivity-impulsivity. Most children have the combined type of ADHD.

Evaluation

There is no single test that can detect ADHD. It is a disorder that is diagnosed clinically and does not have any specific laboratory or radiologic tests. To diagnose ADHD a checklist for rating the symptoms is provided and a history of the child from parents, teachers, and sometimes, the child is taken^{10, 11, 13, 14, 15, 16, 17}. The neuropsychological tests are not as sensitive for diagnosing the disorder, and hence the disorder should be diagnosed based upon the history of the patient¹⁸.

The evaluation of the patient with ADHD is usually done with different rating scales and multiple informants, who may include the teachers and parents. It is necessary for a clinician to look for other disorders as they may be a cause for the symptoms that a child is exhibiting. It should not be diagnosed in the context of symptoms from another disorder, for example, a psychotic episode or manic episode.

Diagnostic and Statistical Manual (DSM 5): Types of ADHD

- 1) Predominantly inattentive
- 2) Predominantly impulsive or hyperactive
- 3) Combination of the above
 - The onset is usually before age 12
 - Symptoms present at school, work, or home
 - The disturbance causes significant impairment in social, occupational, and academic functioning.
 - The disorder is not accounted for by any other behavior disorder.

Research on Assessment of ADHD

Guardiola et al. carried out a study in which they assessed the prevalence of ADHD in 484 pupils using two criteria: DSM-IV and neuropsychological criteria. The results showed that the incidence of ADHD using the DSM-IV criterion and the

neuropsychological criterion were 18% and 3.5%, respectively¹⁹. Shabani et al. conducted another research wherein 428 elementary pupils were studied. According to the findings of this study, 4.9% of students (or 21 persons) have ADHD²⁰.

ADHD in the Light of Ayurveda

In Ayurveda, ADHD as a distinct disease is not described, yet certain abnormal behavioral patterns can be correlated with conditions mentioned in classical texts. Features such as Anavasthita Chittatva (instability of mind), Mano Vibhrama (perversion of mind), Buddhi Vibhrama (impaired intellect), Smriti Vibhrama (loss of memory), Sheela Vibhrama (disturbed habits), Cheshta Vibhrama (abnormal activity), and Achara Vibhrama (irregular conduct) resemble the symptomatology of ADHD.

According to Ayurveda, the root cause of ADHD lies in the impairment of Dhee (rational thinking), Dhriti (mental restraint), and Smriti (memory). Their disturbance leads to abnormal mental functions and behavior, resulting in improper interaction of the senses with their respective objects, thereby manifesting as inattention, hyperactivity, and impulsivity.

Although these terms are collectively described under Unmada Vyadhi, when examined individually, they show a close resemblance to certain clinical and associated features of ADHD.”

उन्मादं पुनर्मनो बुद्धि सञ्ज्ञा ज्ञान स्मृति भक्ति शील चेष्टा चार विभमं वि द्यात् । । च. नि. 7/5

The components of Unmada can be broadly categorized into three groups:

Mana (psychological aspect), which encompasses Bhakti, Sheela, and Achara.

Buddhi, which includes Jnana and Smriti.

Cheshta and Sanjna, representing the physical aspect.”

General Nidana of Unmada (ADHD)

विरुद्धदुष्टाश्चुचिभोजनानि प्रधर्षणं देवगुरुद्विजानाम् ।

उन्मादहेतुर्भयहर्षपूर्वी मनोऽभिघातो विषमाश्च चेष्टाः ॥ च. नि. 7/4

The causes of unmada are attributed to antagonistic, defective, and impure food; disrespect towards gods, teachers, and Brahmanas; psychological trauma arising from fear or excessive excitement; and the practice of strenuous postures.

Nidana of Vaataja Unmada

रूक्षात्पशी तान्नवि रेकधातुक्षयोपवा सैरनिलोऽतिवृद्धः ।

चिन्तादिजुष्टं हृदयं प्रदूष्य बुद्धिं स्मृतिं चाधुपहन्ति शीघ्रम् ॥ च. नि. 7/9

Due to the intake of dry, scanty, and excessively cold food (such as stale food), excessive purgation or vomiting, severe depletion of body tissues, and prolonged fasting, Vata becomes highly aggravated. This aggravated Vata, further influenced by factors like anxiety, again vitiates the already disturbed heart (Hridaya), thereby impairing intellect (Buddhi) and memory (Smriti), ultimately leading to the

manifestation of Vataja Unmada (insanity caused by vitiated Vata).

Samprapti Ghataka

Dosha: Vata pradhana Tridosha

Raja. Tama Dosha

Dushya: Manas & Ashtha Bhava (Mana, Buddhi, Sangya, Smriti, Bhakti etc.)

Adhisthana: Hrdiya

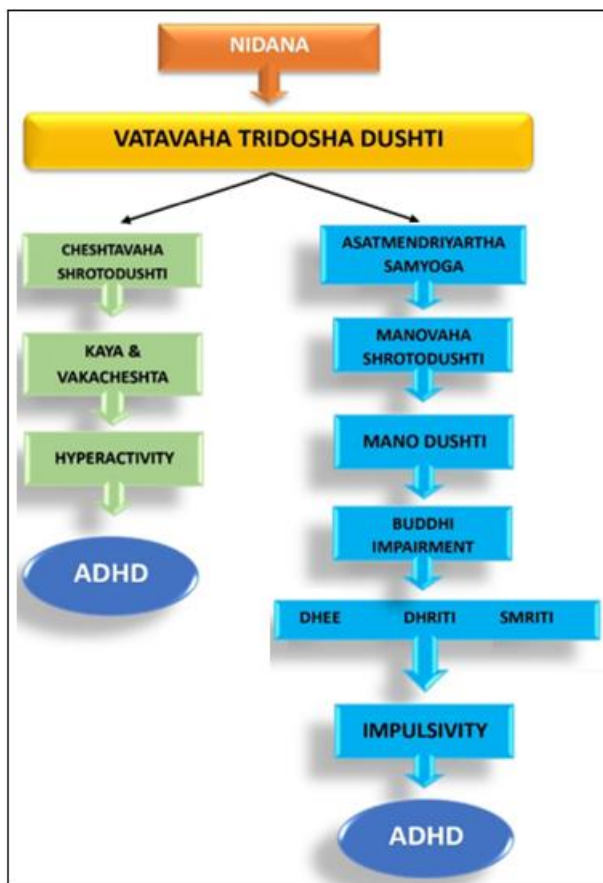
Srotas: Manovaha

Agni Sthithi: Vishamaagni

Vyadhi Swabhava: Daruna

Sadhya Asadhyata: Kricha Sadhya

Samprapti Chakra



Lakshana of Vataja Unmada

अस्थानहासस्मितनृत्यगीतवाङ्मयविक्षेपणरोदनानि ।

पारुष्यकार्यरुणवर्णताश्च जीर्णे बलं चानिलजस्य रूपम् ॥ (च. नि.9/10)

Patients afflicted with Vataja Unmada exhibit abnormal and inappropriate behaviors such as laughing, smiling, dancing, singing, talking, and performing irrelevant bodily gestures without any suitable context. They may also present with episodes of sudden crying. Physically, the body becomes rough, hard, emaciated. A distinguishing feature is that these symptoms, including inappropriate laughter and other abnormal activities, tend to diminish after the digestion of food. These manifestations are considered the characteristic clinical features of Vataja Unmada.

Pathya Apathya

Dietary Recommendations

The recommended diet includes old rice, old wheat, barley, Raktashali rice, Sathi rice, and green gram (moong). Among dairy products, freshly drawn cow's milk, both new and old cow's ghee, and Shatadhauta Ghrita (hundred-times washed ghee) are considered beneficial.

Vegetables such as pointed gourd (parval), bottle gourd (lauki), ash gourd (petha), chaulai, bathua, changeri, ladyfinger (bhindi), and jackfruit are advised.

Fruits like grapes, raisins, munakka, pomegranate, orange, sweet lime (mousambi), fig, and coconut are recommended for consumption. Additionally, fruits such as Kushmanda (ash gourd) and Kaith (wood apple) are considered suitable dietary components.

Dietary Contraindications

Unwholesome dietary practices include the consumption of alcohol, incompatible food combinations (Viruddha Ahara), excessive meat intake, and the use of buffalo's milk. Intake of hot drinks and excessively hot, sharp, and irritant foods is considered harmful. The use of mustard oil, bitter substances such as Kunduru (gum resin) and bitter gourd, as well as excessive consumption of spicy foods and pickles, are also regarded as contraindicated.

2. Material & Methods

This study involves a comprehensive review and analysis of both modern medical literature on ADHD and classical Ayurvedic texts referencing Unmada. The Ayurvedic approach to managing ADHD includes the use of: Herbal and Herbo-mineral formulations for internal and external use. Data sources include classical Ayurvedic texts, contemporary research publications, and case studies supporting the efficacy of Ayurvedic treatments in ADHD.

3. Treatment

Modern Aspect

The management of ADHD includes consideration of two major areas: non-pharmacological (educational remediation, individual and family psychotherapy) and pharmacotherapy

The primary approach to managing ADHD is pharmacological therapy, which is broadly classified into two main categories. ADHD requires a multimodal approach.

Stimulants (first-line): Methylphenidate (Ritalin, Concerta). Amphetamine derivatives (Adderall, Vyvanse). Both types of stimulants block the reuptake of dopamine at the presynaptic membranes and postsynaptic membranes. Amphetamines also directly release dopamine.

Non-stimulants:

Atomoxetine (Strattera). Alpha-2 agonists (Guanfacine, Clonidine).

Psychosocial treatment is the other form of treatment that is used for individuals suffering from the disorder. This form of treatment includes psycho-education for the family and

patient and cognitive-behavioral training programs designed specifically for the patient to achieve short and long-term goals. Research has found that these training programs prove to be very effective when used along with pharmacotherapy. However, unlike other psychiatric disorders, there is strong evidence for medication management without therapy as being the most efficacious^{22, 23, 24}

Ayurvedic Aspect

On the basis of different entities involved in the presentation of Unmada, the treatment modalities can be classified under the following headings:

- 1) For Mano Vibhrama-Adravya Chikitsa namely Jnana, Vijnana, Dhairya, Smruti, Samadhi as indicated by Acharya Charaka.²⁵ This mainly includes counselling and meditation techniques.
- 2) For Buddhi Vibhrama-Medhya Dravyas
- 3) For Sanjna Vibhrama-Sanjna Sthapana Dravyas
- 4) Respective Dosha Shamaka Dravyas
- 5) Hridya-Amla Rasa Dravyas

Single Herbs

Brahmi-is having Tikta Kashaya Madhura Rasa, Madhura Vipaka, Sheeta Veerya and Tridosahara action.

Shankhapushpi-has Kashaya Rasa, Madhura Vipaka, Ushnaveerya, Tridosahara properties. It is mentioned as Medhya, Manasa Rogahrit, Rasayani and Smritikantibalaprada in the classics.²⁶

Vacha-has Katu Tikta Rasa, Katu Vipaka, Ushna Veerya, Kapha Vatahara and Pittavardhaka properties. It is said to be the drug of choice in Kaphaja Unmada. It is also described as Ayu-Medha-Smritikari.

Jatamansi-has Tikta Kashaya Madhura Rasa, Madhura Vipaka, Sheeta Veerya and Tridosahara properties. It is said to nourish the Manas and increase Satva Guna.

Jyotishmati-is having Katu Tikta Rasa, Katu Vipaka, Ushna Veerya and Vata Kaphahara properties. The mode of action is similar to that of Vacha. Due to Ushna Tikshna Guna does Pitta Vriddhi, potentiates Sadhaka Pitta and results in Medha and Smriti Vriddhi.²⁷

Yashtimadhu-has Madhura Rasa, Sheeta Veerya and has been mentioned under Medhya Rasayana²⁸.

Guduchi-possesses Katu Tikta Kashaya Rasa, Madhura Vipaka, Sheeta Veerya and Tridosaharaproperties. It has been described as Rasayani and Medhya.^{26, 28}

Tinospora cordifolia individually and in combination with *Bacopa monnieri* and *Evolvulus alsinoides*, showed improvement in cognitive functions²⁹.

Mandukaparni (Centella asiatica): Mandukaparni is used to support brain health and memory. It may be helpful in improving cognitive function in individuals with ADHD.

Kushmanda-Unlike the above mentioned drugs, possesses Madhura Rasa and Vipaka, Naati Sheeta Veerya (Pakva

Phala), Laghu, Dipana and specifically mentioned as Chetorogahrit (Unmadahara).²⁶

Medicated Ghrita

Panchagavya-the Ghrita prepared from Gomutra, Gomaya, Godadhi, Goghrita and Godugdha is very commonly used in clinical practice for a wide range of psychological disorders. The combination is having Tridosahara effect and hence can be used in a wide range of psychiatric conditions. The properties of the ingredients as per the classics is as follows:

- Gomutra-Medhya
- Godugdha-Jara and Samasta Rogahara
- Godadhi-Amla, Hridya
- Goghrita-Medha, Ojo Vardhaka²⁶

Kalyanaka Ghrita-Kalyanaka Ghrita is a classical Ayurvedic ghee formulation used for enhancing neurological health, nourishing pediatric development, and calming the mind.

Brahmi Ghrita: Brahmi Ghrita is a ghee-based formulation enriched with Brahmi (*Bacopa monnieri*) and other herbs. It is believed to nourish the nervous system, enhance cognitive abilities, and promote overall mental well-being.

Other evidence- based medicine which are found effective in ADHD includes Naladadi ghrita, Kusmanda ghrita, Saraswatarista, Ashwandharista. Rasayana includes Amalaki Rasayana, Aindra Rasayana

Gutika-Amitabhallataka Gutika, Shiva Gutika, Bhrita Surana Modaka.

Panchkarmas Procedure:

Shirodhara: Since Shira is regarded as Uttamanga in Ayurveda, governing the body's vital functions, Shirodhara was planned as a therapeutic approach. When the stream of medicated liquid continuously and rhythmically flows over the forehead and head, it stimulates the local receptors and calms the nervous system. The medicated decoctions used—such as Dashamoola, Yashtimadhu, Vacha, and Brahmi—are Vata-Pitta hara and possess Sheeta Virya, imparting a cooling effect to the head, which helps in reducing hyperactivity. Moreover, their Medhya properties enhance concentration and memory

Matra Basti: According to Acharya Charaka, Basti is considered as Ardha Chikitsa which is the prime treatment for Vata. In ADHD, Rajo Guna predominance is regulated by Vata, and therefore, by managing Vata, Rajo Guna can also be controlled. Basti therapy, through its influence on the gut-brain axis, acts on the nervous system and helps in alleviating stress, anxiety, and depression. Initially, Matra Basti with medicated oils such as Ksheerabala Taila and Mahanarayana Taila was advised, as these oils effectively pacify Vata and thereby help in reducing hyperactivity, which is the chief concern in ADHD. In subsequent sittings, Mahakalyanaka Ghrita was administered, as Ghrita not only pacifies Pitta but also enhances cognitive functions. Once Vata and Pitta were balanced, Brahmi Taila, known for its Medhya (nootropic)

properties, was introduced to further support intellectual and mental stability.

Nasya: Nasa is the Dwara of Shiras. So, we advised the Pratimarsha Nasya with Anu Taila which increased her mental ability.

4. Discussion

Attention Deficit Hyperactivity Disorder (ADHD) is a multifactorial neurodevelopmental disorder that manifests as inattention, hyperactivity, and impulsivity, significantly impairing social, academic, and occupational functioning. The Ayurvedic perspective provides a unique lens through which ADHD can be studied. While the condition is not directly described in classical texts, it finds close resemblance to Vataja Unmada, which arises from vitiation of Dhee (intellect), Dhriti (restraint), and Smriti (memory). Disturbances in these faculties culminate in Asatmendriyarth Samyoga (improper coordination between senses and their objects), closely paralleling the symptomatic triad of ADHD. The etiological factors described in Ayurveda, such as faulty dietary habits, psychological trauma, and lifestyle irregularities, align with several risk factors identified in modern studies, including perinatal insults and psychosocial stressors

Therapeutic strategies in Ayurveda are holistic and multidimensional. Herbal interventions such as Brahmi, Shankhapushpi, Jatamansi, Yashtimadhu, Guduchi, and Jyotishmati possess Medhya (nootropic), Rasayana (rejuvenative), and Manasik roga hara (psychological disorder alleviating) properties. Their pharmacological actions—cognitive enhancement, neuroprotection, and anxiolytic effects—have been substantiated in preclinical and clinical studies, drawing parallels with modern psychopharmacological agents but with fewer side effects. Medicated ghritas like Kalyanaka Ghrita, Brahmi Ghrita and Panchagavya Ghrita are emphasized for nourishing the nervous system and improving higher mental faculties.

Additionally, Panchakarma therapies such as Shirodhara, Nasya, and Basti provide a unique mind-body intervention. Shirodhara, in particular, exerts calming effects on the central nervous system, reducing hyperactivity and anxiety through neuroendocrine modulation. Basti therapy, by regulating the gut-brain axis, addresses systemic Vata imbalance, while Nasya promotes cerebral circulation and functional regulation of higher centres. These therapies emphasize not only symptomatic relief but also long-term balance of body and mind. Comparatively, while modern pharmacological therapy provides rapid symptomatic control, Ayurveda offers a sustainable, individualized, and holistic model of care that incorporates diet, lifestyle modification, psychological counselling, herbal formulations, and detoxifying therapies. The integrative application of both approaches may hold promise in providing comprehensive management of ADHD.

5. Conclusion

ADHD, though predominantly managed in modern medicine with stimulants and behavioural interventions, continues to pose therapeutic challenges due to its chronicity, high

prevalence, and psychosocial burden. Ayurveda, with its rich description of mental disorders under Unmada, especially Vataja Unmada, provides valuable insights into the pathogenesis and management of ADHD. Herbal formulations, Medhya Rasayanas, medicated ghritas, and Panchakarma procedures demonstrate considerable potential in improving attention, reducing hyperactivity, and enhancing memory and emotional stability. Thus, Ayurveda offers not only symptomatic relief but also a preventive and restorative framework that addresses the root imbalances in Dhee, Dhriti, and Smriti. Future research integrating classical Ayurvedic wisdom with modern clinical trials is essential to validate and standardize these therapies. A multimodal approach—combining evidence-based modern pharmacotherapy with holistic Ayurvedic interventions—may emerge as the most effective strategy for the long-term management of ADHD.

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