Understanding the Concept of Attention Deficit and Hyperactivity Disorder in Ayurveda

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Abstract:

Attention deficit hyperactivity disorder (ADHD) is the most common neurobehavioral disorder in the childhood, and the most extensively studied mental disorder of childhood. ADHD is characterized by an age inappropriate hyperactivity, impulsiveness and inattention. The incidence of ADHD is found to be 3 – 10% in school going children. ¹(Nelson 18th edition, 2007). Evidence suggests that there is no single factor responsible for the emergence of the ADHD. The disorder is diagnosed on the basis of behaviour rating scale, clinical interview, physical examination and neuropsychological evaluation. Management plan include behavioural therapy and drug therapy. There is no disease by name ADHD described in ayurveda but some conditions of abnormal behaviour can be screened from ayurvedic literature like Anavasthita Chittatva¹ Manovibhrama², Buddhivibhrama³, Smritivibhrama⁴, Sheelavibhrama⁵ Cheshavibhrama⁶, and Acharavibhrama. Because of distinction between desh, kala, ahara, vihara etc there can be differences in dosha vaisamyas resulting in the disappearance of some unknown disease and appearance of newer ones. Hence, it is difficult to have specific names for all diseases, the name ADHD is retained in this part and the efforts have been made to describe ADHD in Ayurvedic view.

Introduction

ADHD being the most common disorder of school going children; it has been extensively studied in modern system of medicine. Multiple etiological factors are claimed for ADHD and diagnostic tool have been developed on the basis of behavioural rating scale, clinical interview, physical examination and neuropsychological evaluation. In Ayurveda, there is no specific disorder related to ADHD and also there is no specific term ascribed for ADHD. However certain abnormal behaviours like – Anavasthita chittatva, features of Vata prakriti child and manovibhrama, buddhivibhrama, smritivibhrama, sheelavibhrama, cheshavibhrama, acharavibhrama etc. Closely resembles with
ADHD. ADHD’s symptoms may be considered as due to disturbance in Manas and vitiation of vata dosha. Disorders of vata dosha and manas may lead to inattention. The chala, aashukari and sukshma properties of vata dosha may create hyperactivity and impulsiveness. After extensive study of literature the disorder ADHD can be explained in terms of nidan panchak which is described here.

**Aim of Study**
- To understand the concept of ADHD in Ayurveda.

**Nidan of ADHD (Etiopathogenesis)**
- There are no specific nidana mentioned for ADHD in ayurveda.
- Therefore, the nidana that vitiate vatadi sharir dhosha and raja and tama may be considered as etiological factors of ADHD.
- Following three factors (Trividharogayatana) are responsible for the all physical and mental diseases: Asatmendriyarthasamyoga, Prajnaparadha and Parinama.

1. **Asatmendriyarthasamyoga**
   - Sensory perceptions that are not congenial with sensory organs called Asatmendriyarthasamyoga.
   - The ayoga, atiyoga and mithyayoga of each indriya are aggravating factors for sharirika and manasika roga.

2. **Prajnaparadha**
   - *Prajnaparadha is an* action carried out with non-justifiable understanding because of vibharansa of dhi, dhriti and smruti.
   - Due to involvement of manodosha raja and tama the emotional state like krodha, bhaya, Irshya etc. considered under prajanaparadha become etiological factors for the mental diseases like ADHD.

3. **Parinama**
   - This term parinama is used in the sense of Kala (season, climate and other variations)
   - Seasonal changes are also responsible to number of diseases as Charaka has explained advent of maturity of kala that is considered as the causative factor for manasika roga.
   - ADHD may result from several causes and most of the time the combination is of more than one factor.

**PRECIPITATING FACTORS**

1. **Toxicological factors (Dushivisha)**
   - Acharya Charaka defined dushi visha as which act slowly like lead and other environmental pollutants can affect progeny by there toxic exposure for long time during pregnancy. This is established by a study on removal of lead stores through chelating therapy has produced significant improvements in behavior. (John M. Dye)
• Visha and upavisha, viruddha bhojana and gara visha are some exogenous factors in causing behavioural disorders like ADHD.

2. Bhutaveshaja Factors

• It can be defined as occurrence of sudden onset of disease without any obvious etiology.

• It can be correlated with the infectious diseases such as encephalitis which can affect the brain tissue, that bring change in the process of signals sending by brain may cause symptoms of ADHD. (Said Pournaghash, 2008)

3. Dietary factors

• In Upanishads it is described that finest portion of diet provides nourishment to the mana and thus mind is a product of the food that we are accepting.

• Therefore, mana is said to be "Anna-maya.

• The temperaments of an individual are the result of diet what he consumed.

• It decides the satavika, rajasika and tamasika temperament.

• Therefore, if the diet is pure then mana will also be pured.14

• prajna, medha and tushti are vital factors that depend on food.15

• Therefore, the ingestion of unwholesome diet, predominant in rajasika and tamasika properties will have similar effects on the mana, leading to abnormal Prajna, Smruti etc. The process of knowledge perception will be affected, thus the final resultant will be an abnormally functioning mind.

• Some specific nidana mentioned with respect to their effect on manas are as follows:

  ➢ Excessive ingestion of any one particular rasa leads to various disorders some of which are at the level of psyche.16

  ➢ Lavana atisevana Cause hindrance to the functioning of indriyas and causes moha.

  ➢ Katu rasa atisevana Causes moha, tama and bhrama.

  ➢ Tikta rasa atisevana Causes moha, bhrama.

• Therefore, the consumption of any one rasa in excessive amounts has been condemned by the classics.17

• Above description is not only the determinant of physical traits but also psychological well being of an individual.

• This has been proved today that infant malnutrition is a strong risk factor for ADHD.

• Even a child who gets sufficient nutrition later in life may develop ADHD because of malnutrition in infancy. (Zimney 2008)

• Topographic mapping of brain electrical activity in children considered to have food induced ADHD supported the effect of diet on behavior of ADHD subtypes.
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4. Improper Sleep

- Inappropriate sleep can vitiate vata causing inattention and disturb brain waves that is supported by a study of lack of sleep precipitates ADHD. (Gozal et al 2001, Brown et.al 1995).

PRODROMAL SYMPTOMS OF ADHD

- No prodromal symptom has been recorded in modern science as well as in our ancient literature of ADHD.
- But some psychological situation of other disease described in our classics such as arati, brhama, glani and avyakta could be its prodromal symptom.

SYMPTOMS OF ADHD

Three core symptoms are of ADHD that is inattentiveness (including increased distractibility and difficulty sustaining attention), Impulsivity (poor impulse control) and hyperactivity (i.e. decreased self inhibitory capacity, motor over activity and motor restlessness.).

INATTENTION

- Perception without attention should be a swirl of confusion as the mana tries to comprehend everything stimulating the senses at once.
- Perception is the entire process of awareness of presentation by sense organs that is interpretative through cognitive process.
- Knowledge is acquired by jnanendriya that combine with their corresponding indriyarthas after analyzing it in presence of mana. 
- In absence of mana there is no knowledge that mean with presence of mana we can acquire perception as well as genesis of knowledge.
- Powerhouse of controlling of normal function of mana is dhriti. This dhriti control mana to jump from one indriya to another and maintain attention as well as concentration.
- All of these emphasized proper attentions are under control of indriyabhiraha and Swasyanigraha.
- Therefore, improper function of mana along with the impaired buddhi result into inattention. Because of this, object unable to sustaining attention for a specific duration of time to acquire knowledge.
- Imbalanced doshas aggravated their corresponding action.
- Unstable mana at the level of indriyasapeksha jnana make child inattentive.
- Child feel difficulty to sustain their concentration as well as allocation
of mental effort to appropriate actions.

- At the level of manasaapeksha jnana inattention make child to improper decision, he cannot differentiate between right and wrong things that make child distractible and hyperactive.

**HYPERACTIVITY**

- Hyperactivity is made up of two words i.e. hyper + activity. Hyper is used as prefix that means excessive while activity deals with movement. Thus, hyperactivity includes behaviour such as restlessness and fidgetiness.

- In Ayurveda activity denoted with chesta, vakkayamanovypayapara by Arundatta while Hemadri says it gamanadikriya.  

- Vata dosha has two main property named as gati and chalatva that is primordial originator of biomotor functions by the help of vyan vayu through chestavaha srotas. Therefore, on vitiation of it cause kayachesta as well as vakchesta resulting into physiological impairments all over body and in modern it is termed as Hyperactivity. Due to this hyperactivity, the child can not complete his task that lead to failure and resultant will be frustration. This aggravated chesta along with frustration further vitiates vyan vayu and a cycle goes on.

**Buddhi vibhrama**

- When buddhi get vitiated (buddhivibhrama), the subject lost their self into the vishayaas and take sudden decisions without making an allowance for the consequences and situations that is a proper decisive cognition does not occur in response to a sensory stimuli and results inappropriate actions or thoughts or impulsiveness.

- It is associated with the impairment of dhriti that control particular karmendriya from performing the impulsive act.

- Vitiated vyan vayu and aggravated udan vayu are responsible to manochesta and vakchesta and the affected child will behave like impulsively.

- The manoarthas are deranged leading to inappropriate thought processes and inappropriate decisions, which lead to impulsive behavior.

- Therefore, the child blurts out answers at wrong places, unable to wait for turn, often intrude on oth-
ers, becomes aggressive, and often engages in dangerous activities.

ASSOCIATED FEATURES

- On seeing its etiopathogenesis there are so many factors such as vata (especially vyan, udan and prana), pitta (especially sadhaka), raja etc. which provide us the clues of co-morbid condition like unmad, apasmar, attavabhinivesh, conduct disorder, ODD, Learning disorder, PANDAS, and mood disorder due to variation in the features.

SAMPRAPTI

| Dietary, Infectious, Perinatal, Genetic, Social & Psychological factors (Aharaj, Sahaja, Garbhaja, Janmottar & Sang-
| Sharira Dosha (vata, Pitta, Kapha) & Manas Dosha |
| Asatmendriyathasanyoga, Pradnyaparadha & |
| Manovaha srotodushti – Manas & Buddhi impaired i.e. dhi (perception), dhriti (Retention), smriti (Recollection) vibhransha |
| Predominantly inattentive type (Kapha & Tama dosha) |
| Predominantly hyperactive-impulsive type (Vata & Raja) |
| ADHD (Combined type – All Sharira & manas dhosha dushti) |
SAMANYA SAMPRAPTI GHATAK

Dosha

- The main causative factors of ADHD are raja and tama\(^3\) both of them depend on each other, Tama cannot manifest its action without raja & it’s vice versa.\(^3\)

- Prajnaparadha, Parinama and Asatmendriyarthasanyoga vitiate raja and tama dosha.\(^3\)

- Raja and tama have ‘Chala’ and ‘Guru’ properties respectively\(^4\) and due to these properties, actions of Mana are also influenced.

- Vata is necessary cause for ADHD especially Prana, Udana and Vyana Vayu. Provocation of Prana, Udana and Vyana causes Indriyopaghata due to Prana, Manohrhamsa due to udana and utsahabhramsa, chittopalava due to vyana vayu. There are also various somatic symptoms like excessive talking, blurs out answers at wrong places and indulges in dangerous activities prior receiving warning etc. manifested because of vitiated vata.\(^5\) Thus we can say that Vata is chief causative factor of ADHD.

- Pittaprapakopa nidana mentioned in texts, vitiates sadhaka pitta which causes buddhi, medhanasa i.e. loss of intellectual faculty thus we can say that Sadhaka Pitta is responsible for manifestation of ADHD.

- Kaphaprapakopa nidana mentioned in texts, vitiates Tarpaka kapha that leads to malnourishment of indriyas and causes indriyanasa or indriyavikriti.\(^6\)

Dushya

- In ADHD Mana is the main dushya that is vitiated by raja and tama\(^7\) Therefore, that mana cannot properly know perceived object.

- Thus improper knowledge to indriyas leads to a number of manasa vikaras like ADHD.

Agni

- Agni vitiates by various factor such as chinta, shoka, bhaya, krodha etc.\(^8\) This vitiated agni bring various physical and mental illness.

Srotas

- Manovaha srotas are mentioned in the descriptions of mental disorder in our classics that resides in whole body due to chalatva guna of mana.

- Mana vitiates by various nidanas and manovaha srotas are vitiated by this mana. Therefore, manovaha srotas cannot perform proper transportation of chetna to the living body cells so that it is responsible for manifestation of ADHD\(^9\).

Udbhava Sthana

- Location of mana is Hridaya\(^10\) and mana is mainstay for all mental
disorder that is why Hridaya can be considered as the udbhava sthana of ADHD\textsuperscript{41}.

Vyakti Sthana

- Vyakti sthana of ADHD may be considered mana and sarva sharirra.

Sadhyasadhyata

- ADHD is mostly chronic disease & more affect to normal functions of physical & mental faculties. ADHD along with associated features is considered as a Krichrasadhya disease.

Updrava

- ADHD can precipitate into major psychic disorders i.e. unmada, apasmara, etc.\textsuperscript{42} So these manovikara and sarvasariravikara can be considered as updrava of ADHD.

SADHYASADHYATA

- When symptoms of ADHD are not in aggressive phase nor having associated features then it lies in ‘Sukhasadhya’\textsuperscript{43} series with resolving up to adolescences.

- When symptoms are in aggressive manner & are associated with co-morbidities like conduct disorder, learning disability etc, then the disease will be ‘Kricchrasadhya’.\textsuperscript{44}

- When patients show all symptoms of ADHD along with co-morbidities and having a genetic predisposition may become ‘Asadhya’.\textsuperscript{45}

CHIKITASA OF ADHD

ADHD is not a mentioned disease in Ayurveda therefore no specific medication is documented but can be approached with general measure of treating mental disorders taking care of age of child concerning indications and contraindications.

All measures that get relief to child can be considered in management of ADHD. Whole management can be divided into two groups: Adrabyabhuta Chikita, Dravyabhuta Chikita

CONCLUSIONS

1. ADHD being the burning issue of this century children cannot render optimum performance in their field to achieve desired success.

2. With critical analysis of Ayurvedic literature, it can be said that ADHD is a Tridoshaja vyadhi.

3. The subtype inattentive can be predominantly considered as Kapha and Tama dominant whereas the subtype hyperactive-impulsive can be justified as Vata and Raja dominant and in combined subtype all Sharir and Manas dosha are involved

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