

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 Chittatva*¹ *Manovibhrama*², *Buddhivibhrama*³, *Smritivibhrama*⁴, *Sheelavibhrama*⁵ *Cheshtavibhrama*⁶ 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 neuropsy-

chological 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*, *chestavibhrama*, *aacharvibhrama* 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:⁷ *Asatmendriarthasamyoga*, *Prajnaparadha* and *Parinama*.

1. *Asatmendriarthasamyoga*

- Sensory perceptions that are not congenial with sensory organs called *Asatmendriarthasamyoga*.⁸
- The *ayoga*, *atiyoga* and *mithyayoga* of each *indriya*⁹ 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 *smriti*.¹⁰
- 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)¹¹
- 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*.¹²
- 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 lead¹³ 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 Pour-naghash, 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 *sativika*, *rajasika* and *tamasika* temperament.
- Therefore, if the diet is pure then *mana* will also be pure.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 abnor-

mal *Prajna*, *Smriti* 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.

(T.Unlig, Merckenschlager, Brandmaier & Egger, 1997) They found an increase in beta activity in the fronto temporal areas of the following consumption of provoking food.

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*,¹⁸ *brhama*,¹⁹ *glani*²⁰ and *avyakta* could be its prodromal symptom.

SYMPTOMS OF ADHD

Three core symptoms are of ADHD that is inattention (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*.²¹
- In absence of *mana* there is no knowledge that mean with presence of *mana* we can acquire perception as well as genesis of knowledge.²²
- 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 *indriyabhigraha* 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.²³
- 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 *manasapeksha 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*, *vakkayamanovyapara* by *Arundatta* while *Hemadri* says it *gamanadikriya*.²⁴
- *Vata dosha* has two main property named as *gati* and *chalatva* that is primordial originator of biomotor functions by the help of *vyana* *vayu* through *chestavaha srotas*.²⁵ Therefore, on vitiation of it cause *kayachesta* as well as *vakchesta*²⁶ resulting into physiological impairments all over body²⁷ and in modern it is termed as Hyperactivity. Due to this o hyperactivity, the child can not complete his task that lead to failure and resultant will be frustration. This aggravated *chesta*²⁸ along with frustration further vitiates *vyana* *vayu* and a cycle goes on.²⁹

IMPULSIVITY

- Any sudden action performed by a subject without taking in consideration is known as Impulsivity.
- In *Ayurveda* in reference of impulsivity *Acharya Hemadri* says “*avicharyah karya pravritti*”³⁰ that means without thinking a subject engaged in activities or excitement.

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 *vyana* *vayu* and aggravated *udana* *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-

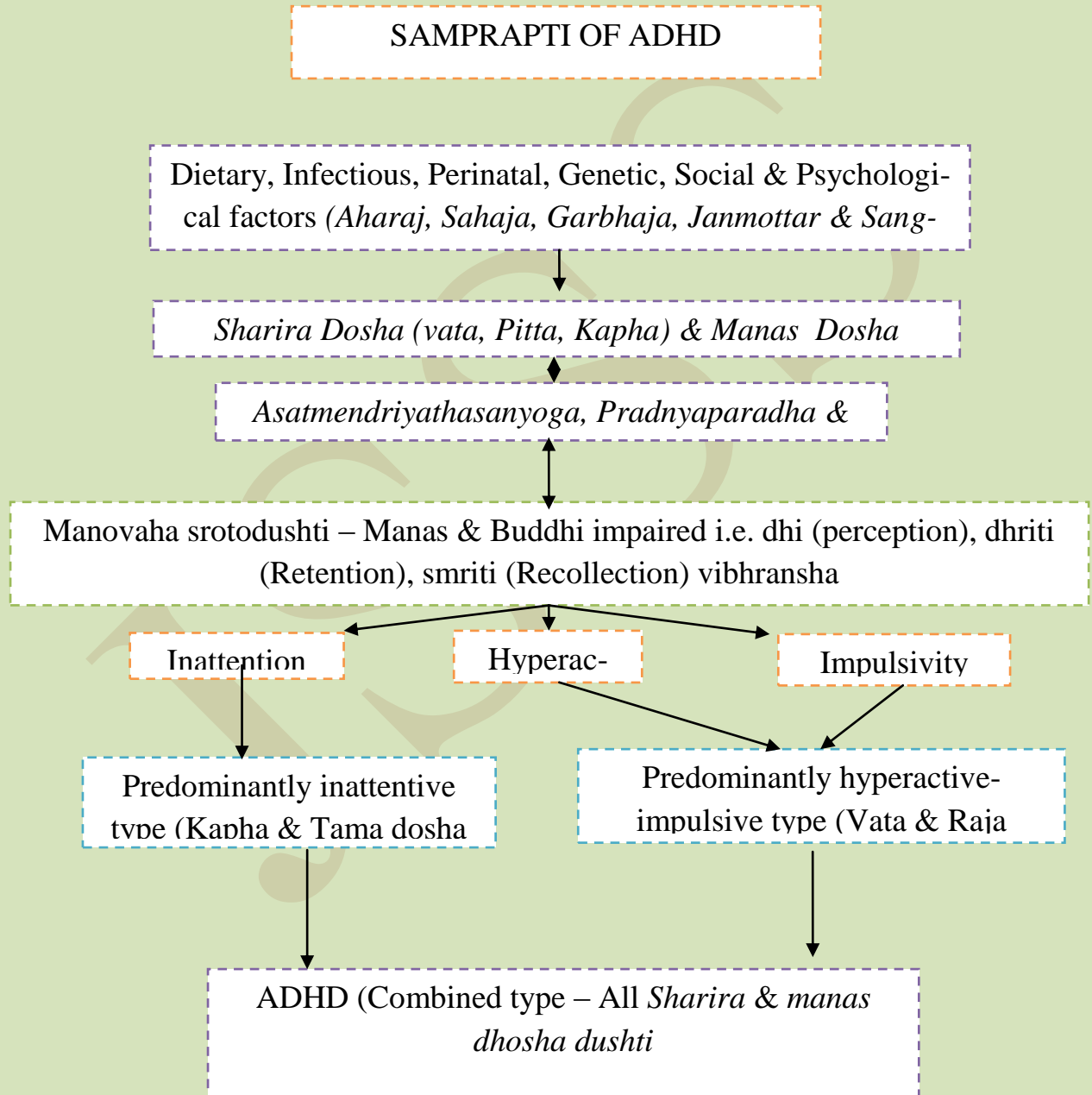
ers, becomes aggressive, and often engages in dangerous activities.

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



SAMANYA SAMPRAPTI GHATAK**Dosha**

- The main causative factors of ADHD are *raja* and *tama*³¹ both of them depend on each other, *Tama* cannot manifest its action without *raja* & it's vice versa.³²
- *Prajnaparadha*, *Parinama* and *Asatmendriyarthasamyoga* vitiate *raja* and *tama dosha*.³³
- *Raja* and *tama* have 'Chala' and 'Guru' properties respectively³⁴ 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*, *Manobhramsa* due to *udana* and *utsahabhramsa*, *chittopalava* due to *vyana vayu*. There are also various somatic symptoms like excessive talking, blurts out answers at wrong places and indulges in dangerous activities prior receiving warning etc. manifested because of vitiated *vata*.³⁵ 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*.³⁶

Dushya

- In ADHD *Mana* is the main *dushya* that is vitiated by *raja* and *tama*³⁷ 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.³⁸ 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 ADHD³⁹.

Udbhava Sthana

- Location of *mana* is *Hridaya*⁴⁰ and *mana* is mainstay for all mental

disorder that is why *Hridaya* can be consider as the *udbhava sthana* of ADHD⁴¹.

Vyakti Sthana

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

Sadhyasadhyata

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

Updrava

- ADHD can precipitate into major psychic disorders i.e. *unmada*, *apasmara*, etc.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 '*Sukhasadhyata*⁴³ series with resolving up to adolescences.
- When symptoms are in aggressive manner & are associated with comorbidities like conduct disorder, learning disability etc, then the disease will be '*Kricchrasadhyata*'.⁴⁴
- When patients show all symptoms of ADHD along with comorbidities and having a genetic

predisposition may become '*Asadhyata*'.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 Chikitasa*, *Dravyabhuta Chikitasa*

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 *Tri-doshaja 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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