

## Attention deficit hyperactive disorder an *Ayurvedic* perspective.

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### ABSTRACT:-

Ayurveda is the science of life which explain the principles for the maintenance of health and obliteration of disease. According to Ayurveda, vitiation of *dosha* is one of the important contributing factor for disease condition. Charaka describes diseases numerable and innumerable. *Acharyas* had vision of forthcoming new diseases; hence they explained the concept of understanding the new diseases i.e. *Anukta Vyaadhi*.

*Anukta vyadhis* are not interpreted by their names, but with the cluster of signs and symptoms the underlying pathology can be understood by the basic principles stated in Ayurveda. These are not only helpful in understanding the pathogenesis but also give a direction to think in terms of treatment for the same.

Attention deficit hyperactivity disorder (ADHD) is one among *anukta vyadhi*. ADHD is most

common psychosomatic childhood disorder. It is characterized by inattention, increased distractibility, difficulty in sustaining attention, poor impulse control, decreased self-inhibitory capacity, motor over activity and motor restlessness. Children with ADHD have been found to have cognitive deficits, lower IQ, impaired social relationships within the family and with peers, as well as poor study skills and lower academic achievement.

At present, modern medications prescribed for treating ADHD have various undesirable side effects and have potential for abuse and addiction. Another disadvantage called rebound effect is also noted.

Most of the symptoms described in ADHD resemble to perturbation of *Vatadosha* more specifically with *chala guna* of *Vata*. View of Ayurveda regarding the etiopathogenesis of diseases can provide

novel theories of ADHD and also new dimensions to its management.

This paper is an attempt to evaluate the possible etiological factors and management of ADHD through perspective of *Ayurveda* which can be safe and effective.

**KEYWORDS:** ADHD, *Anukta vyadhi*, Psychosomatic Childhood disorder.

## INTRODUCTION:

Ayurveda is the science of life. It explains the principles for the maintenance of health and obliteration of disease. Ayurveda considers *Tridosha* as one of the basic elements responsible for the formation of the human body.<sup>1</sup> In normal state they work as a pillar for the body to maintain it. *Doshas* are internal causes of disease and main factors responsible for disease.<sup>2</sup> Without vitiated *doshas* formation of disease is impossible. *Acharya* defined disease as any disturbance in equilibrium of *doshas*.<sup>3</sup>

According *Charaka*, diseases are numerable and innumerable.<sup>4</sup> *Acharyas* had vision of forthcoming new diseases. Therefore they explained the concept of understanding the new diseases i.e. *Anukta Vyaadhi*. *Anukta Vyadhis* are those *Vyadhis* which are not described by *Acharyas*. Texts of *Ayurveda* strongly emphasize that it is not necessary to name every disease. The understanding of the disease in terms of *nidana* (etiology), *dosha* (dysfunction), and *dushya* (target tissues) as well as the stages of progress of the disease is considered to be crucial in succeeding in the treatment.<sup>5</sup> There are many new diseases emerging now. Such diseases

that have not been named or listed in the texts, they can be studied by considering above principle.

Attention deficit hyperactivity disorder (ADHD) is one among *anukta vyadhi*. It is most common psychosomatic childhood disorders. 5-10 % of Indian population is affected by this disorder with male predominance.<sup>6</sup> ADHD symptoms can appear as early as between the ages of 3 and 6 and can continue through adolescence and adulthood.

ADHD is characterized by inattention, including increased distractibility and difficulty in sustaining attention, poor impulse control, decreased self-inhibitory capacity, and motor over activity and motor restlessness. Children with ADHD have been found to have cognitive deficits, lower IQ, impaired social relationships within the family and with peers, as well as poor study skills and lower academic achievement.

The most commonly prescribed modern medications are central nervous system stimulants combined with counselling and cognitive behavioural interventions. The most commonly used stimulants are Ritalin (Methylphenidate) and Adderal. At present, modern medications prescribed for treating ADHD only gives symptomatic relief. Patients taking these medications need to continue taking them throughout their life. There are many potential side effects of stimulants, including: decreased appetite, poor growth, dizziness, insomnia, nightmares and psychosis. They are not only producing above side effects but also have potential for abuse and addiction. Another disadvantage noted with short acting stimulant is the "Rebound effect"

that is worsening of behaviour above baseline behaviour following wearing of medication.<sup>7</sup>

Thus with the cluster of signs and symptoms, the underlying pathology can be understood by the basic principles stated in Ayurveda. It is not only helpful in understanding the pathogenesis but also gives a direction to think in terms of treatment for the same.

### AIM AND OBJECTIVES :-

1. To study the possible etiological factors and management of ADHD through Ayurvedic perspective.
2. To study etiopathogenesis of ADHD as per modern Science.

### MATERIAL AND METHADODOLOGY:-

Literary data was collected from classical texts of Ayurveda and modern texts including digital media, relevant articles and internet.

### REVIEW OF LITERATURE:-

ADHD as per modern Science<sup>8</sup>

#### Definition:-

Hyperkinetic disorder is characterized by an early onset ( before seven years of age) and the combination of overactive , poorly modulated behavior with marked inattention, lack of persistent task involvement, restlessness, impulsive tendencies and high degree of distractibility. These characteristics are pervasive across situations and persistent overtime (World health organization 1992)

### Etiology:-

**Genetic Factors:** – This disorder is associated with D4 receptor gene polymorphism. Studies also suggest that there is a strong genetic contribution, especially in boys. The biological parents of affected children have a strong history of hyper kinesis in their own childhood.

**Brain dysfunction:** – Children with evidence of brain damage, e.g those with epilepsy and cerebral palsy show high rates of hyperkinetic syndrome. It is important, however to stress that most children with hyperkinetic syndrome do not show overt evidence of brain dysfunction.

**Neurochemical processes:** – Brain dysfunction is also suggested by the presence in some studies, but not all of a high rate of non-epileptic EEG anomalies. In addition abnormalities of dopamine metabolism have been confirmed in affected children.

**Diet:** - Hyperactivity has been related by the US allergist, Feingold(1975),to the presence of various additives and naturally occurring substances in the diet. Tartrazine and salicylates are said to be particularly noxious.

**Lead:** – Lead ingested or inhaled in high concentrations can produce severe brain damage. It has been claimed that lead in much lower concentrations, can produce hyperactivity.

**Social factors:-** Young children living in poor social conditions, with inadequate housing and in families with stretched financial resources are more likely to show hyperactivity. These factors

operate by their influences on parental health and behaviour.

**Parental behaviour:** – It has been observed clinically that mother of children showing relatively unresponsive to their children's demands. In severe cases, there may be even attachment problems between mother and child.

**Early childhood experiences:** - Children separated from their parents in early life, then reared in institutions for 2 or 3 years, and finally settled in good adoptive families may show hyperkinetic behaviour.

### **Clinical features:-**

**Onset:** - Children usually present to health services between the ages of three and seven years. It is detected with starting school because of the greater pressure to sit still, concentrate and behave there. Complaints about the child's behaviour may come either from the parents or from playgroup organizer or because the child may show considerable variability from situation in his activity level and attention span.

**Behavioural Characteristics:** – The child will have been a restless and difficult feeder, sometimes sleeping poorly and irregularly. Some mothers even report antenatal over activity, with high levels of intrauterine kicking and restlessness.

As walking begins and the child becomes more mobile, he is noted to be unusually active and in an unfocused fashion. The high level of activity often in association with clumsiness means that the child is particularly prone to accidents. Child is highly distractible and cannot settle to any activity for more than a brief period.

Puzzles, construction toys and picture books do not engage his attention. They may show associated developmental problems, especially language delay and other behaviour problems, particularly a tendency to aggressive behaviour. As the child gets older, over activity usually becomes less of problem, but defects of attention and concentration may persist may lead continuing learning problems, but defects of attention and concentration may persist and may lead to continuing learning problems. Impulsiveness and lack of inhibition may result in antisocial behaviour, relationship difficulties, a tendency towards substance abuse and poor work record. In nut shell classical symptoms of ADHD are restlessness, nervousness, talks excessively, poor memory, stuttering, stammering.

### **Diagnosis:-**

1. ADHD is diagnosed by assessing child's behaviour and mental development. ADHD is diagnosed mostly by the feedbacks and observations from the parents, teachers, and relatives about the behaviour of the child. Diagnosis should be differentiated by anxiety disorders and depression.<sup>9</sup>
2. Quantitative E.E.G

### **Management:-**

Conventional medicines in allopathy include some stimulant drugs containing amphetamines and methamphetamine and other popular drugs are Adderall, Ritalin, etc. But these drugs may permanently alter the brain chemistry of children. Also these drugs have side-effects like irritability, anxiety, sleep disruption and reduced appetite, sudden tics etc. Therefore instead of

conventional ADHD medication, there is growing need towards natural remedies in ADHD treatment because these alternative treatments are usually safer and well tolerated.

## AYURVEDIC ASPECT:-

### Etiology

Causative variables according to Ayurveda can be as follows

#### 1. *Sahaj hetu* :-

According to Ayurveda, the woman should follow certain regimen during menstruation (*rajaswalacharya*). If the woman does the restricted acts mentioned in text during menstruation it affects '*aartava*' (*stribija*) and ultimately affects the child. If she will do fast running, the child will be unsteady, hyperactive. It can be causative factor for ADHD. Now a day most of the women are working women and hence proper regimen (*rajaswalacharya*) mentioned in *grantha* is not followed by them. Running increases '*chala*' *guna* of *vayu* in the *aartava* i.e. *Stribija*<sup>10</sup>

According to *Aacharya Bhela*, psychological status of the couple during intercourse affects psychology of child. E.g. If the couple will be mentally stressed the child will be '*rajasik*'<sup>11</sup> (mind having dominance of *raja dosha*)

The nature of diet, behaviour and conduct of the couple during coitus affects the nature of child. E.g. If the couple will take diet having dominance of *vata*, then such diet will increase *vata dosha* in child.<sup>12</sup>

#### 2. *Garbhaj Hetu* :-

The psychology of the child depends on the psychological status of parents, the topics being listened by the woman and diet of woman during pregnancy.<sup>13</sup>

#### 3. *Jataj Hetu* :-

The Psychology of the child also depends upon the diet (*aahar*) and behavioural habit (*vihara*) of individual after birth.<sup>13</sup>

#### 4. *PurvajanmaKruta* :-

Deeds of previous life ( *karmavipaka*) life have an impact on psychology of the child.<sup>13</sup>

**Samprapti** :- ADHD is a *vata* predominant disorder. *Vata dushti* may result from *beej dushti* during conception or *garbhaja karanas*. *Vata dosha* is a combination of *aakash* and *vayu mahabhoot*, because of which, it is the most unstable dosha and also causes imbalance in other doshas, *kapha* and *pitta*. In case of ADHD, there is vitiation of *vayu* and *aakash mahabhoot guna* and suppression of *prithvi mahabhoot guna*. In ayurveda, there are references in *Charak samhita* that cite symptoms associated with inattention, hyperactivity and compulsive behaviour as the symptoms of *vata* imbalance in the body. The *Charak Samhita* states, If *vyana vayu* is occluded by *prana vayu*, then there will be loss of all the senses and there will be loss of memory as well as strength.<sup>14</sup>

### Symptoms:-

In this condition, child have deficit of attention due to hyperactivity. The symptoms like restlessness, nervousness, excessive talking, stuttering, stammering are suggestive of perturbation of *vayu*



more specifically *chala guna* of *vayu*. *Vata dosha* controls and initiates the activity of mind, so it is called as *niyanta* and *praneta* respectively.<sup>15</sup> In the ADHD, *vata* is vitiated by etiological / causative variables mentioned above. Increased *chala guna* of *vayu* disturbs the actions/functions of mind. Direct cognition ( *pratyaksha dnyana*) happens spontaneously when soul (*aatma*), mind (*mana*) , cognitive senses (*indriyas*) and their subjects (*aarthas*) get connected to each other. In ADHD, mind is affected by *chala guna* of *vayu* so there is disturbance in direct cognition. To get knowledge of anything, focusing /concentration is required. In ADHD, due to excessive hyperactivity that is in other word, due to excessive increase in *chala guna* of *vayu*, child can't do focusing for long time. Due to poor focusing child has poor intelligence and memory.

**Management :-** To treat the symptoms of ADHD, ayurveda seeks to counter balance the unstable elemental forces of *aakash* and *vayu* by increasing the stability factor of *prithvi mahabhoot*. Management of ADHD includes 1. Counselling 2. Medication 3. *Panchakarma therapy*.

**1. Counselling** – Counselling of parents should focus first on acknowledgment of the extent of the problem. The fact that child is not going to change rapidly, but that the long term outcome may be good providing one can avoid the child becoming discouraged and low in self-esteem, should also be emphasized. Praise should be given if the child's level of attention improves even slightly. There should be minimum distractions and the availability of small group

tuitions with clear incentives and rewards for even short spells of attentiveness and on task behaviour e.g. sitting at table or concentrating on puzzle, should be charted by parents and teachers. Rewards agreed with the child should be instituted for appropriate behaviour and inappropriate behaviour should be ignored. The foodstuff which increases *vata* should be avoided.

**2. Medication** – In this disorder, *Chala guna* of *vayu* is increased. So child can't do focusing, hence he has poor memory. For focusing on anything '*Sthira*' *guna* of '*Prithvi*' *mahabhoota* is required. *Jatamansi* is *parthiv dravya* having *snigdha* and *medhya gunas*. It balances increased *chala guna* of *vayu*. It has peculiar smell (*Gandha guna bahul*) hence, it quickly acts on mind.<sup>16</sup> The *rasadravyas* like gold (*Suvarna*) and silver (*Rajata*) can be used. *Suvarna bhasma* has *madhura rasa* ( *Prithvi+ Aapa*) and *snigdha guna* which balance *chala guna* of *vayu mahabhoota*. It improves grasping, comprehension and memory. It also gives stability (*Sthirativakrita*).<sup>17</sup> *Rajat bhasma* has *amla rasa*( *Prithvi +Agni*) and *kshaya rasa* (*Prithvi+ Vayu*) ,*snigdha guna* and *madhura vipaka*( *Prithvi+ Aapa*). *Chala guna* of *vayu* is controlled by *sthira guna* and *amla rasa* regulates the vitiated motion of *vayu* ( *Vata anuloman*).<sup>18</sup>

### 3. Panchakarma therapy-

**Basti** is the main *panchakarma* treatment for vitiated *vayu*. It increases longevity, *aagni, medha* and improves quality of speech (*swara*) and skin complexion (*varna*). it is good for all age groups including kid and old age group. *Niruha* and *anuvasan basti* can be given

in this disorder. Oil(*til* oil) is drug of choice in *vata* disorder so '*Anuvasan basti*' is useful to control increased *chala guna* of *vayu*. *Anuvasan basti* also improves complexion, strength and clarity of mind.<sup>19</sup> (*Man prasadana*)

**Shirodhara** is the process in which continuous stream (*dhara*) of warm oil is put on the point at the middle of eyebrows. The point between two eyebrows is supposed to be the site of third eye. According to *yogashastra* there is *adnya chakra* which controls the activity of the mind. The properties of *shirodhara* are as follows. It gives stability to mind and speech. It helps to decrease the symptoms like restlessness, nervousness, poor memory, stuttering, stammering. It also improves grasping and memory.

**Nasya :-** *Nasya* means the administration of various drugs through the nasal route .Since nose is the gateway of the head; it is highly effective in curing a number of diseases pertaining to the head. If it is performed systematically, it cleanses and opens the channels of the head. It also improves the functions of *prana*, which has a direct influence on the functioning of brain. Regular practice of *Nasya* is beneficial for proper functioning of sense organs and mind.<sup>20</sup> Daily *bruhan nasya* will be helpful to control *vata dosha* in ADHD.

## CONCLUSION :-

ADHD is most common psychosomatic childhood disorder with few behaviour problems and characterized by poor ability to sustain attention, motor over

activity and impulsivity. At present, modern medications prescribed for treating ADHD have various undesirable side effects and have potential for abuse and addiction.

ADHD is one of the *anukta vyadhi*. This paper is an attempt to understand etio-pathogenesis of ADHD through ayurvedic perspective. After reviewing the literature, it can be concluded that *vata* is one of the main contributing factors for ADHD. Hence treatment mainly focuses on pacification of *vata dosha* by using different modalities like counselling, medication and *panchakarma* therapy in preventive and curative aspect. Further clinical studies are required to establish it in the scientific world.

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