Case Report

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Role of Ayurveda in *Unmada* With Reference to ADHD –A Case Study

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Abstract

Attention deficit hyperactive disorder (ADHD) is one of the most prevalent neurobehavioral disorders of childhood which affects the social, learning and behavioural abilities, Ayurveda explains almost all the Psychiatric and Behavioral disorders under the headings of *Unmada* and *Apasmara* where *Unmada* is a disease featured as unstable intellect, mind, knowledge, memory, consciousness, and bad manners. This case report is aimed at dissemination of role of Ayurveda in the management of ADHD (Unmada). This case study of 4.3 years male presented with complaints of hyperactivity, poor concentration, easily irritable, shouting, headbanging, unable to speak two words at a time and sentences since last one and half year. It has shown promising results. *Rasayana* is the source of achieving the excellent quality of *rasadidhatus* (body tissues) which increases life span, improves *Medha* (intelligence), stabilizes youthfulness, cures disease, enhances complexion, lustre, and voice makes body strong and healthy. So *Sarsawataarishta* with gold is selected as a choice of drug as best rejuvenator as it promotes memory and intelligence, improves speech, and promotes health. It provides nourishment to body tissue and also acts on mind. It opened the door of the Ayurvedic approach with hope to deliver the good result in similar disorders. The case was successfully treated with the help of internal medications which were carminative, digestive and mild purgative in action, external oleation and medicated oil enemas suggested by *Acharya* in the treatment of *Unmada*. In the view of Ayurveda, ADHD can be named as Unmada due to the specific psycho-somatic clinical presentation.

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INTRODUCTION

Ayurveda explains almost all the Psychiatric and Behavioral disorders under the headings of *Unmada* and *Apasmara* where *Unmada* is a disease featured as unstable intellect, mind, knowledge, memory, consciousness, and bad manners. (Shukla, 2005a). It is an obsession occurring in cowardly and weak-minded individuals resulting in an imbalance of *Tridosha* (three-body humour) (Tripathi, 2014). The etiological factors are intake of unhygienic, improperly processed and incompatible diet with irregular dietetic habits. It is also mentioned that inappropriate physical activities by a fragile person and psychological disturbances caused due to

over consciousness about illness, emotional instability like excessive anger, grief, irritability, fear etc.results into a decline of balanced psychological functions in a person. *SatwaGuna* (quality of mind which is a symbol of positivity) tend to decrease in the person due to the above factors resulting in *Tridosha* (Three bodily humours) getting localized in *Hridaya* (Heart/Mental faculty), causing diminished functioning mental faculty and finally creating *Unmada (Gaud, 2014d)*. Due to loss of intellect, knowledge and memory, the person does not experience happiness and sorrow. *Unmada* is of five types (Gaud, 2014a).

Attention deficit hyperactive disorder (ADHD) is one of the most prevalent neurobehavioral disorders of childhood, which affects the social, learning and behavioural abilities with a prevalence rate in India at 1.3 per 1000 (Gaud, 2014b). The characteristic features of the disease are inattention, including increased distractibility, poor impulse control and hyperactivity. Affected children may commonly experience underachievement in academics and difficulties with interpersonal relationships. Multiple factors are said to be responsible for ADHD. A strong genetic component is essential factor results in the disease. Mother of the child with ADHD may have a history of birth complication such as prolonged labour, toxaemia, and complicated delivery. Drug abuse and addiction of mother have also been recognized as risk factors (Paul and Bagga, 2019). Various food colouring agents and preservatives have been related to hyperactivity in previously hyperactive children. The subsequent onset of the symptoms of impulsivity and inattention can be due to abnormal brain structure and traumatic brain injury (Kleigmn, 2008c).

DSM V criteria are considered to be the criteria of diagnosis for ADHD. According to this, the suffering child should have more than six symptoms of a particular type (Kleigmn, 2008a). ADHD has three subtypes;the first being predominantly Inattentive type, common in females which often includes cognitive impairment. The other two types are commonly diagnosed in males those are hyperactive, impulsive type and the combined type. The symptoms may vary according to age such as, motor restlessness, aggressive and disrupting behaviour are frequently seen in preschool children while, distractible and disorganized symptoms are more typical in older adolescents. Presynaptic dopaminergic agonist, commonly called psychostimulants medication is the choice of drug for treating ADHD. Increased risk of adverse cardiovascular events which includes sudden cardiac death, myocardial infarction and stroke in young adults rarely in children may be associated with Stimulant drugs which are used to treat the disease (Arlington, 2013) .

The prognosis of *Unmada* is said to be *Sadhya* (Curable) by treating it with internal medications along with various therapeutic procedures. Ayurveda suggests the treatment protocol as, *Snehan*(Oleation), *Swedana*(sudation), *Shodhana* procedures like *Vamana* (Emesis), *Virechan*(Purgation), *Basti* (Medicated enema), *Nasya*, *Dhumapana*(Medicated smoke), *Anjana* (Collyrium application), *Abhyanga* (Massage), *Lepa*(External application), *Parisheka*(Oil bath)also *Shaman Chikitsa* (Internal medication) (Kleigmn, 2017).The present case was an attempt to study the role of Ayurveda line of management in a case of ADHD, which was diagnosed as *Vatajunmade* in Ayurveda.

MATERIALS AND METHODS

Case details-Patient information

Four years three-month-old boy came to an OPD of a teaching hospital with the complaints of hyperactivity, poor concentration, easily irritable, shouting, headbanging, unable to speak two words at a time and sentences since last one and halfyear. The associated complaints were poor eye contact, excessive sweating, warm feeling of palms and feet, intolerance to heat, anger, lack of appetite and sleep disturbances. Mother had also given the history that the child refuses to wear clothes when at home and has like play with cold water. Common symptoms like parents had to become embarrassed due to their son's naughty behaviour. They also faced a lot of family issues due to differences between parents. History told by the mother, that child was alright before one and a half year of age their after complaints were of gradual noticed. Mother did not know the chronology of the complaints. There was no significant history reported. Birth history revealed significant antenatal problems of the mother, such as abortion due to rubella in her first pregnancy which was four years back. The suffering child was born from her second pregnancy in which the diagnosis of pregnancy was made at three months of LMP in USG only.

There was no detection of pregnancy in UPT. Mother also suffered from emotional disturbances and lack of nourishment during her antenatal period. The child was born with 2.3kg weight by full-term vaginal delivery with no significant postnatal history.

Developmental history revealed all the developmental milestones were well developed as per age, control over bladder and bowel was achieved late by 3.5

Table 1: Details of Personal History

Sl.No.	Parameters assessed	Status
1	Appetite	Poor
2	Diet	Mixed (Veg & Non-veg)
3	Bowel movements	Irregular 1-2 times a day
4	Urine	4-5 times a day
5	Sleep	Disturbed,wakes up crying at night
6	Likes	More of outside packed food, Biscuits & Chocolates
7	Dislikes	Milk, dairy products

Table 2: Parameters assessed in General Examination

Sl. No	Parameters assessed	Findings
1	Pulse	94/min
2	Blood pressure	86/60mm hg
3	Height	98cm
4	Weight	13.5kg*
5	Respiratory rate	24/min
6	Tongue	Coated
7	Eyes	Pallor+
8	BMI	14.5
9	Built	Lean
10	Appearance	Hyperactive

Table 3: Drugs administered in the 1^{st}& 2^{nd}sitting

Sl.No	1st Sitting			2nd Sitting		
	Formulation	Dose	Anupan	Formulation	Dose	Anupan
1.	*Agnitundivati*	1/2th of 125mg BD (after food)	Luke warm water	*Saraswataarishta* with Gold	2.5 ml BD (in morning and at bed time)	water
2.	*Abhayaarishta*	5ml BD (after food)	Water	*Mustarishta*	7.5ml BD (before food)	water
3.	*Brahmi Ghrita*	5ml at bedtime	Milk	*Brahmi Ghrita*	5ml OD (morning)	Milk

*BD:Twice a day

years of age. Has poor eye contact with no interactive Play; he was unable to speak two words at a time and unable to talk in small sentences also. The details of personal history are as per Table 1.

General Examination

Parameters assessed in general examinations are as follows Table 2. In a systemic examination, Central nervous system revealed that the child was conscious but was not oriented about time, place and age. All the superficial and deep tendon reflexes were normal. Other systemic examination parameters were within normal limits.

Diagnostic assessment

The case was diagnosed as a hyperactive type of ADHD as per DSM-V criteria (Kleigmn, 2008b). Based on clinical presentation, it was diagnosed as *VatajUnmada* in Ayurveda

Treatment

Treatment protocol in 1^{st}& 2^{nd}sittings: *Deepan*, *Pachana*, *Vatanuloma*, *Snehapana*, *Abhyanga*, *Swedana*, *Basti* and *Murdhinitaila Chikitsa.*

Table 4: Procedure advised in the 1^{st}& 2^{nd}sitting

Sl.No.	1st Sitting		2nd Sitting	
	Therapy	Medicine used	Therapy	Medicine used
1.	*Sarvanga Abhyanga*	*KsheerabalaTaila*	*Sarvanga abhyanga*	*Ksheerbal tail*
2.	*Nadiswedana*	With *Vatashamak Kashaya*(*Nirgundi,Chincha , Bala , Eranda*)	*Shashtishali Pindasweda**	–
3.	*Shiropichu*	*Brahmi tail*	*Shirodhara**	*Brahmitaila + Tiltaila*
4.	*Matrabasti*	*Dashamulataila* + pinch of rock salt 1st day: 10ml Then add 5 ml for every day upto 25 ml for 5 days & same for next 2 days	*Matrabasti*	*Dashamulataila* + pinch of rock salt 1st day: 10ml Then add 5 ml for every day upto 25 ml for 5 days & same for next 2 days

Nirgundi : Vitexnegundo *Chincha : TamarindusindicaLinn *Bala: Sidacordifolia Linn *Eranda: Ricinus Communis Linn *Shastishalipindasweda*: type of sudation made of rice boiled in medicated *Kashaya* and milk.Shirodhara*: Pouring of medicated oil over head

Table 5: Discharge Medicine advised after 1^{st}& 2^{nd}sitting

Sl. No	Formulation	Dose	Anupana
1	*Brahmi Ghrita*	5ml OD(morning)* 15 days	Milk
2	*Avipatiakarchuran*	3 grams. HS*	Warm water
3	*Saraswatarishta* gold	2.5 ml BD*	Water

*OD: Once a day *HS: at Night,*BD:Twice a day

Table 6: Drugs administered in 3^{rd} sitting

Sl.No	Formulations	Dose	Anupan
1	*Saraswataarishta* with Gold	2.5 ml BD (in morning and bed time)	Water
2	*KalyanakGhrita*	5ml OD (in morning)	Milk
3.	Neurocare drops	08 drops Once a day	

Table 7: Procedure advised in 3^{rd} Sitting

Sl. No.	Therapy	Medicine used
1	*Sarvangaabhyanga*	*Ksheerbala tail*
2	*NadiSwedan*	–
3	*Shirodhara*	*Brahmitaila + Tiltaila*
4	*Matrabasti*	*Dashamulataila* + pinch of rock salt 1st day: 10ml Then add 5 ml for every day upto 25 ml for 5 days & same for next 2 days

Table 8: Observations before and after complete course of treatment

Sl. No	Symptoms	On admission	On discharge
1	Hyperactivity	+++	Absent
2	Easily irritabile	+++	Absent
3	Shouting, head banging	+++	Absent
4	Lack of appetite	+++	Good appetite
5	Less eye contact	+++	+
6	Unable to speak two words at a time and sentences	+++	++
7	Excessive sweating	+++	Absent
8	Anger	+++	Absent
9	Sleep disturbances	+++	Absent

The details of Drugs administered in 1^{st}& 2^{nd} sitting are as per Table 3. The details of Procedure advised in 1^{st}& 2^{nd} sitting are as per Table 4. The details of Discharge Medicine of 1^{st}& 2^{nd} sitting are as per Table 5.

After the first course of treatment, the appetite of the child got improved, sweating and warm feeling of palms and soles have reduced. The hyperactivity of the child gets mildly reduced, but the mother also complaints about irregular bowel movements and easy distractibility. After the completion of 2^{nd} Sitting moderate changes in hyperactivity was noted, there was also improvement in the concentration. Mother told that the child could sit at one place for some time. Also, he does not refuse to wear clothes at home. The details of Drugs administered in 3^{rd} sitting are as per Table 6. The details of Procedure advised in 3^{rd} sitting are as per Table 7.

After the 3^{rd} sitting the, there was an improvement in hyperactivity, inattention and poor eye contact. The child can tell his full name and follows the command given by his parents. He replied for the questions asked to him like his name also he can repeat the words which are said to him like Good morning. Thank you. The child is now able to tell about his hunger, bowel and bladder habits.

OBSERVATIONS AND RESULTS

The Observations based on the clinical picture was noted before and after the course of treatment is as given, the details of Observation before and after are as per Table 8.

Follow up and outcomes

Follow up was done after every 15 days, where the clinical outcome of the therapy was assessed along with any adverse drug reactions. During treatment, no adverse drug reaction was reported to the child.

DISCUSSION

The child presented with the complaints of prominent hyperactivity as per DSM V criteria. The symptoms seen in the child according to the criteria such as restlessness, squirms in seat, leaves his place often, climbs and runs in a situation which is appropriate, unable to play and engage in activities, talks excessively, interrupts others activities etc. In making the diagnosis, children should have six or more symptoms of the particular type. Ayurveda has described three types of management, especially for psychiatric and neuropsychiatric disorders. viz; *DaivaVyapashryaChikitsa* (Spiritual Therapy/Divine Therapy), *SattvavajayaChikitsa* (Ayurvedic Psychotherapy) and *YuktiVyapashrayaChikitsa*

The classical line of management of *Unmada* suggests Carminative and Drugs that promote digestion, internal oleation use of medicated ghee, mild body purification by emesis or purgation, decoction enema and oil enema, medicated nasal drops and oral medication to stabilize the mind. Also, the other procedure like *Abhyanga*, *Nadisweda* and *Shirodhara* prove to be better capable in *Unmada*. While explaining the formation of *Garbha* (fetus) it has been mentioned that, the normalcy of *Shukra*(sperm) and *Shonita*(ovum) along with all *Shad bhava* (six factors are influencing fetal formation and development). The mode of life of pregnant women is responsible for proper growth and well-being of a child. If any of the factors get affected, it will adversely affect the growing fetus. Ayurveda has a significant focus on *Garbhiniperikarya* (antenatal care) which should be appropriately followed throughout pregnancy, including diet and lifestyle modifications. Suppression of natural urges, emotional disturbances, excessive physical work, and incompatible diet are a few of them which should be avoided by the pregnant lady (Shukla, 2005c).

While analyzing the causative factors in the child, the role of the antenatal status of the mother had to be scrutinized as Ayurveda believes that the factors influencing pregnancy will affect the baby in terms of physical, psychological or both. As per the history revealed by the mother, she was under severe psychological stress during which she was separated from the father of the child. She had also reported nutritional deprivation during the first few months of pregnancy.

The *mana*(mind) of the fetus attains the characters of *satwa*, *raja*, *Tama* etc. depending upon the psychological status of the mother and father (Shukla, 2005b).If psychological factors during antenatal period get disturbed it will ultimately affect the of the fetus and thus results in the child with psychological and neurobehavioural disorders. In this case, the nutrition and the psychological state of the mother were disturbed because of this. The suffering child gets affected by ADHD. The pathology of ADHD is not clear in the contemporary system of medicine other than the neuro-behavioural outlook. In Ayurveda, any disease is said to have a root at mental, physical or both phases. In the case of most of the conditions, the aetiology and the are psycho-somatic. Explained in Ayurveda, both *Tridosha* leads the mind and body, and the vitiation of these *doshas* will cause an abnormality of both psyche and body. *Vatadoshais* the main among *Tridosha*, which has much control over mental functions such as initiation, direction and stimulation of thoughts and related actions. In the present case, the normal functions of *Vata* were affected,in turn leading to hyperactivity in the child. The child was not able to control his thoughts and stimulus so that he was not in a position to listen to parents or have balanced activities. The involvement of *Pitta dosha* was dominant over *Vatadosha* in the child who was evident from the symptoms such as, anger, irritability, Dislike to hot things, not liking to wear clothes and desire for cold air and water. Due to the above reasons, the case was diagnosed as *VatajUnmada*.

By using the above details as a guide, planning of treatment and selection of drugs were made in the present case based upon the main *dosha* involvement. Whiledoing so, maintenance of *Agni* (digestive fire/metabolism) was taken care of first as without proper metabolism pharmacological actions of the drugs cannot be expected. *AgnitundiVati*, *Mustarishta* and *Abhayarishta* were the formulations used for the same. To control the vitiated *Vata* and *Pitta dosha*, both internal and external oleation therapy was given with the administration of ghee processed with cognitive enhancers and oil processed with drugs having soothing and cooling properties, respectively. Lipophilic drugs are said to have the properties to cross blood-brain barrier (Sharma, 1990) due to which medicated ghee might have acted as a cognitive modifier. The touch receptors stimulated by external oil massage had helped in calming down the hyperactive child. *Avipattikarachurna* is a formulation which is used as a drug of choice in Pitta dosha dominant disorders. Elimination of metabolic wastes through *Virechana* (Purgation) is a method of treatment in Ayurveda which has worked in the present case as a mild purgative and helped in the removal of accumulated metabolic toxins like nitrogen compound, etc. which might have caused the hyperactivity and aggressiveness in the child. *Basti* is also called to be the primary modality of treatment in *Vata* type of disorders or the disorder of nervous system by expelling the toxins and by maintaining the balance in *doshas*, *Basti* Proves to be effective in this case.

Acharya Charak defines *Rasayana*as the source of achieving the excellent quality of *rasadidhatus* (body tissues) which increases life span, improves *Medha* (intelligence), stabilizes youthfulness, cures disease, enhances complexion, lustre, voice and makes body strong and healthy (Gaud, 2014c). So *Sarsawataarishta* with gold is selected as a choice of drug as best rejuvenator as it promotes memory and intelligence, improves speech, promotes health. It provides nourishment to body tissue and also acts onmind. *Suvarna* (Gold) is indicated in *unmada*.

CONCLUSION

The analysis of causative factors showed some relation with the prenatal psychological and physical status of the mother. The case was successfully treated with the help of internal medications which were carminative, digestive and mild purgative in action, external oleation and medicated oil enemas suggested by Acharya in the treatment of *Unmada*. In the view of Ayurveda, ADHD can be named as *Unmada* due to the specific psycho-somatic clinical presentation. The present case demonstrated the role of Ayurveda in managing *VatajUnmada* that was diagnosed as a hyperactive type of ADHD. The child was seen to be normal during the follow-up period, and the child well tolerated the therapies. It showed good relief in the patient; hence the Ayurvedic line of treatment can be adopted in *VatajUnmada* (ADHD).

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Conflict of Interest

The author declares that there is no conflict of interest.

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