Kottakkal Journal of Ayurvedic Medicine and Research
Volume 1, Issue 2 (April-June) 2025 |Page No: 33-40 | ISSN:3107-4057

SCOPE OF INTEGRATED MANAGEMENT OF BEHAVIORAL DISORDERS IN CHILDREN

A case based analysis

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Abstract

Background: Behavioral disorders in children significantly impact their cognitive, emotional, and social development. Conditions like Attention Deficit Hyperactivity Disorder (ADHD), conduct disorders, and emotional disturbances require a multidisciplinary approach for effective management. While conventional treatments focus on medications and behavioral therapy, Ayurveda offers a holistic approach, addressing underlying imbalances through *Panchakarma, Medhya Rasayana*, and *Satvavajaya Chikitsa*.

Objective: The article explores the scope of an integrated management approach for behavioral disorders in children, combining Ayurvedic interventions, psychological therapy, parental education and special education. A case-based analysis highlights the effectiveness of this approach in improving behavioral and cognitive outcomes.

Methodology: A comprehensive literature review was conducted, along with a clinical case study of a 12-year-old girl with hyperactivity and aggressive behavior. The patient underwent an inpatient integrated treatment approach, including Ayurvedic therapies (*Panchakarma*, *Medhya Rasayana*), behavioral therapy, parental education, and yoga. The outcome was assessed using Conner's Parent Rating Scale for ADHD before and after treatment.

Results: Post-treatment, the patient demonstrated a significant reduction in aggressive behaviors, anger outbursts, and sleep disturbances. The Conner's parent rating scale score improved from 51 to 30, reflecting better emotional regulation and cognitive function. *Panchakarma* therapies such as *Virechana, Snehapana*, and *Nasya* etc combined with behavioral therapy and yoga, contributed to sustained improvement.

Conclusion: An integrated approach involving Ayurveda, psychological therapy and parental education provides a sustainable solution for managing childhood behavioral disorders.

Key Words – ADHD, Ayurveda, Mind, Yoga, *Medhya Rasayana*, good parenting, *Satvavajaya*, Special Educators

Introduction

Children are the future hope of a country. A child is like a clay which can be moulded into any shape. So, it is essential that children should be raised up in a well-disciplined manner. Since both the parents would be working now a days, children won't get much attention as usual, which may lead to develop behavioral issues. Behavioral disorders in children manifest as persistent, inappropriate emotional and behavioral responses, which interfere with normal development, learning, and social interactions.[1] These disorders include ADHD

(29.7%), conduct disorders (14.5%), emotional disorders (12.5%), scholastic disorders (7.1%), adjustment disorders (2%), and pervasive developmental disorders (9.5%).[2] Behavioral problems are more among children due to parental abuse, exploitation, neglect, and lack of love and care, kids are no longer in the care of their parents.[3] Children experiencing these conditions often face academic struggles, difficulty in peer relationships and emotional distress and require comprehensive intervention strategies.

The causes of behavioral disorders are multifactorial, involving genetic, environmental, and psychological factors. Conventional treatment primarily includes medication, behavioral therapy, and educational support, but these may not address the underlying imbalances. Ayurveda provides a complementary approach in managing behavioral disorders through interventions like *Panchakarma, Medhya Rasayana*[4]*, and Satvavajaya Chikitsa*[5] (psychotherapy in Ayurveda). This paper discusses how an integrated approach combining psychological, educational, and Ayurvedic therapies can improve behavioral and cognitive functions in children.

The article shows how a 12-year-old girl, born to consanguineous parents who exhibited hyperactivity and behavioral issues since childhood was managed by hospitalization at Govt Ayurveda Research Institute for Mental Health and Hygiene (GARIMH). Despite initial improvement with psychiatric medication, symptoms worsened after discontinuation.

Materials and methods

Comprehensive review of articles, findings from clinical experiences, case study

Case Study

The patient is the first child of consanguineous parents, born through full-term normal vaginal delivery. Her mother experienced severe stress during the gestational period. All developmental milestones were attained at the appropriate time. However, she exhibited hyperactivity from early childhood. At the age of four, she was taken for a consultation regarding these symptoms and was started on medication. While on allopathic treatment, her symptoms would subside for the first 10 days but would then reappear. She also experienced drowsiness in the classroom due to the medication. Additionally, she had recurrent upper respiratory tract infections during childhood. One year ago, her symptoms worsened, manifesting as the use of abusive language, lying, harming others and destroying objects. She once hit her grandmother on the head with a bat when she was not allowed to watch TV or was denied something she wanted. She also frequently broke objects, lost her belongings, kept things messy and took others' belongings. As a result, she was admitted for seven days at Medicity and for one month at GARIMH for further management.

After admission, she appeared apparently normal on psychiatric medication. According to her parents, six months ago, they changed her school and due to her insistence, she stayed in a hostel. The patient reported feeling more comfortable in the hostel than at home. However, she felt that her mother was angry towards her. Over the past six months, she showed improvement in her behavior and academics. Her symptoms tended to worsen during menstruation. She continued her psychiatric medication for three months after discharge GARIMH but later discontinued conventional psychiatric medicines on her own, continuing only Ayurvedic treatment. Two weeks ago, while cleaning her room, she discarded her Ayurvedic medicine, believing it to be expired. Following this, her symptoms worsened. She exhibited increased anger outbursts, difficulty falling asleep and staying asleep, aggressive behavior towards her mother, teachers, and hostel staff, frequent classroom absences and suicidal tendencies. She attempted to run away from the hostel continuously for four days and physically harmed her teachers and mother with a stick when they tried to restrain her behavior. Additionally, she had occasional self-muttering in a loud voice, increased mobile phone usage, and stubbornness. She felt that her friends viewed her as a problematic child, which made her feel sad. She also refused food for two days, leading to fatigue, slurred speech and dizziness, which ultimately resulted in her being hospitalized.

Table 1 - Interventions done

Ayurvedic interventions	
Internal medicines	**Panchakarma procedures**
1. *Agni* correction 2. Special powder- *Sweta Sankhapushpi, Sarpaganda, Gokshura* (1:1:1) –2gm bd after food 3. *Sweta Sankhapushpi+ yashti churna* –5gm bd after food 4. *Kalyanaka Gritha*[6] 10ml hs 5. *Saraswatha churna*[7] – 1gm morning after food	1. *Virechana* with *Avipathy churna*[8] 10gm for one day 2. *Kashayadhara* with *useera kwatha* for 7 days 3. *Rookshana* for 3 days with *Gandharvahstadi Kashaya*[9] 10 ml bd before food, *ashtachurna*[10] 5g bd before food, *abhayarishta*[11]- 15ml bd after food 4. *Snehapana* with *Tiktaka gritha*[12] (30ml,60ml,90ml,120ml,150 ml) for 5 days 5. *Abhyanga* with *Dhanwantara taila*[13] and *Ushma sweda* for 2 days 6. *Virechana* with *Avipathy churna* 20gm for one day 7. *Siropichu w*ith *ksheerabala taila*[14] for 5 days 8. *Snehavasti* with *Mahakalyanaka gritha*[15] 30 ml for 5 days 9. *Pratimarsha nasya* with *tiktaka gritha* 2 drops in each nostril for 3days *10. Thalam* with *Panchagandha churna* and *ksheerabala taila* 11. *Dhoopana* with *haridra, daruharidra, vacha, jatamansi*
Alternative therapies	
1. Behavioral Therapy (weekly a session of 1 hour) 2. Yoga -daily half hour 3. Parental Education	

The case was diagnosed as *paithika unmada* with *vatanubanda* and was managed with an integrated approach in an inpatient setting at GARIMH Kottakkal for a period of one month. The outcome was assessed using Conner's parent rating scale for ADHD[16], in which the score changes from 51 to 30. Patient showed marked decrease in anger and aggressive behaviors. Her sleep also improved.

Discussion

Factors affecting behavioral problems

Behavioral issues are multifactorial in origin. Familial (Type of family, interaction between family members, external factors that affect family directly and indirectly), biological (Genetics, brain damage, temperaments, physical illness), scholastic (Giving facilities to students on the basis of intelligence, academic performance, social and physical capacity) and socio-economical (Low socioeconomic and low educational status of parents) factors are involved.

In this case, parents were consanguineous and consanguineous marriage is considered as a strong risk factor for ADHD among progeny, with more than three quarters of all ADHD patients screening positive for parental consanguinity.[17] The child was exposed to recurrent upper respiratory tract infections. Some experts believe that a streptococcal infection can trigger a condition called Pediatric Autoimmune Neuropsychiatric Disorders Associated with Streptococcal Infections (PANDAS), which can manifest with symptoms similar to ADHD, including behavioral changes, anxiety and obsessive-compulsive behaviors.[18] The relationship between mother and child was not harmonious. This also might have increased the risk of developing behavioral symptoms.

Importance of Ayurvedic Interventions in Behavioral Disorders

Ayurveda underscores behavioral disorders under *Manas Roga* (mental disorders) and attributes them to an imbalance in *Tridoshas* with more of a predominance of *Vata* and *Pitta* doshas, along with weak *Satva* (mental strength). Imbalance in their amount causes mental instability, irrelevant talks and distorts children's overall mental ability. Although *vatadosha* is prominent, but later on, higher levels of its imbalance impairs the *pitta dosha*, which leads to eagerness, frenzy, fury or jumping behavior in children.[19] Considering the *ashta vibrama*[20] domains, children's mental health in behavioral disorders are much influenced by factors like *Mana* (mind), *Budhi* (intellectual errors), *Samnja-jnana* (orientation), *Smriti* (memory), *Bhakti* (desires), *Sheela* (behavioral tendencies), *Cheshta* (actions) and *Achara Vibramas* (deviation in conduct). Therefore, the correction should aim at normalizing these domains which in further improves the quality of life of both children and their parents.

Behaviors and agni of child

Ayurveda emphasizes that diseases arise due to improper food habits[21]. Nowadays children are adhered to unhealthy eating habits which disturbs their gut microbiome and eventually mental health gets affected. So, the correction should aim at implementing good food habits by introducing more quantity of *satvik ahara* and eliminating *rajasa* and *tamasa ahara*. *Arati* is an expression of *mano vibhrama*, which occurs due to impairment in *samana vata* which resides in *koshta*[22] Imbalance in levels of neurotransmitters (eg: dopamine, norepinephrine) are considered as a reason for behavioral issues. Most of the receptors of neurotransmitters are in gut. Therefore, gut correction can impart significant changes in problematic behaviors of children. Clinicians opine that certain positive behavioral changes are attained by correcting *agni* itself. Correction of *agni* includes *pachana-deepana, anulomana* and *krimihara* by which vititated doshas attains normality to an extent. Medicines like *Rajanyadi Churna, Avipathy Churna, Krimigna Vati, Vilwadi Gulika, Gopeechandanadi Gulika, Hinguvachadi Churna, Ashtachurna, abhayarishta and aravindasava* may be used for *agni* correction after assessing the features of the children.

Panchakarma

Panchakarma procedures can be done both internally and externally in behavioral issues. *Snehapana, Virechana, Sirodhara and thalam* are beneficial in reducing aggressive behaviors and sleep disturbances. In this case, treatment procedure started with *virechana(koshtashodana*), which has *Manaprasada* and *Budhiprasada* action. *Avipathy churna* was used for it. Since *kashayadhara* is *Srotosodhana* and *Rooksha* in nature, it was selected and *Sirodhara* using *Useera kashaya* was done. After that, for attaining *rookshana, Gandarvahastadi kashaya* which is *deepana* and *vatanulomana, Ashtachoorna* which is *pachana* and *deepana, Abhayaristam* which is *anulomana* in nature were used internally. This was followed by administration of *shodananga snehapana* using *Thikthaka grita* which is effective in *vatapaithika unmada*. After *snehapana*, the patient showed significant improvement in her sleep. *Abhyanga* and *ushmasweda* was done to bring *utklishta doshas* from *sakha* to *koshta*. *Dhanwantaram taila* was used for *Abhyanga* as it is a neuromuscular tonic, stimulates the nervous system and improves sensory-motor integration because of its *Vata* and *Pitta* balancing properties.[23] Thus, massage therapy helps to break the pathophysiology of disease and improves the clinical symptoms of ADHD patients. Again, *virechana* was done using *Avipathy churna*, by which aggressiveness markedly decreased. After that *pichu* was administered with *Ksheerabala taila*. Then, *snehavasti* was given with *Mahakalyanaka gritha*. *Vasti* is considered as *Ardha chikitsa* by Acharya Charaka. It balances Vata Dosha. Vasti dravyas may activate the neurohumoral transmission by stimulating the gut-brain, regulating changes in behavior and emotions.[24] *Pratimarsa nasya* with *tiktaka gritha* was used as principal dosha involved here is *pitta*. *Thalam* with *panchagandha choorna* and *ksheerabala* which is *vata pitta hara* was also administered daily which checked the sleep disturbances.[25] *Dhoopanam with haridra, daruharidra, vacha, jadamanchi* helped in thought correction of child.

Medhya Rasayana

Following the *agni* correction, further treatments should aim at *vatapittaharatwa, brimhana* and *medhya* properties. *Medhya* is the group of drugs which act by the virtue of *Prabhava*. *Medha* is made up of three

faculties: *Dhee, Dhriti and Smriti*, all of which are interconnected. Maintaining of normal functioning of *Sadhaka pitta* and *Tarpaka kapha* is the desired action of any Medhya drug.[26] It purifies and rejuvenates dhatus promoting the mental health. Using *Medhya rasayana* drugs helps to improve cognitive functions like concentration and attention. There are several studies[27,28,29] regarding the nootropic activity of *Medhya* drugs such as *sankhapushpi, mandukaparni, yashti, brahmi, gokshura and sarpaganda*. In this case, *Sweta shankhpushpi churna* which is *tiktha rasa pradhana, seeta virya and madhura vipaka* and hence *pittasamana* and *Yashti choorna* which is *vatapitta samana* and *medhya* was given. *Medhya rasayana* drugs work on the HPA axis to normalize secretion of neurotransmitters such as dopamine, serotonin, norepinephrine and thus can improve mental function.[30] *Sarpaganda* has sedative effects and it exerts a calming effect on excited, tense, hyper active patients.[31] *Gokshura* which has *medhya* action was also given. Regular consumption of *Saraswata churna* improves *Buddhi* (higher mental functions), *medha* (intellect), *dhriti* (control over mind), *smriti* (memory power) and *kavita shakti* (poetic talent).

Satvavajaya Chikitsa

Satvavajaya Chikitsa (psychotherapy in Ayurveda), which focuses on cognitive restructuring and emotional regulation. *Satvaavajaya* helps to attain a harmonious equilibrium between child and his environment which can help him to reduce vulnerability to behavioral disorders and to permit him to lead a more productive and satisfying life.[32] Administering *satvavajaya* chikitsa in children is different from adult as they are unaware of their conditions. *Satvavajaya* includes five major techniques, namely, *chintya* – regulating thoughts, *vicharya* – replacing negative ideas, *uhya* – channeling assumptions, *dhyeya* – refining goals and *sankalpa* – strengthening decision-making. This may be implemented in children by giving assurance, consoling the children by proper guidance and suggestion, quoting well known references and mythological stories with good moral, replacing the emotions, entertaining the patient with recreational therapy.[33] Negative thinking in children may be handled by appreciating the child's achievement, boosting self-confidence and encouraging them.[34] These principles align with the conventional behavioral therapy and should be done with the help from parental figures.

In this case, behavioral therapy like positive reinforcement was done to improve overall behavior. Behavior modification was done for anger management, social skill training to improve and maintain social interaction and prevent interpersonal difficulties, art therapy and thread work was done for irritability and impatience, activity-based therapy to improve attention, focus, executive functioning, and self-regulation skills, and CBT to lessen inattention and impulsivity caused by ADHD by changing the way she thinks and reacts.

Yoga

Yoga is a most promising therapy for managing behavioral issues in children since it has role over mental faculties: *yoga chittavritti nirodha.* Yoga is not merely doing asanas or pranayama but also a way of living where it presents how to behave in a community. It's not always easy for children with hyperactivity-impulsivity to perform asanas quietly. Therefore, slight modifications should be made to make it feasible for children. Energy releasing activities may be done prior to implementing asanas. Yoga therapy is shown to significantly improve attention span and impulse control.[35] Along with yoga, meditation and *om* chanting also have effects in modifying behaviors in clinical practice. Yoga practice has showed to increase GABA level as per studies.[36] Yoga provides improved emotional regulation and resilience. It enhances cognitive functions and focus and also regulate the levels of serotonin, dopamine and cortisol.[37] In this case, *Sookshma vyayama, Swasthikasana, Veerabhadrasana, Shavasana, Thaadasana, Ardhachandrasana, Jaanusheershasana, Vajrasana, Poorvothanasana, Naadishuddhipranayama, Bhramari, Seethkari, Ujjayi pranayama* was advised.

Good parenting

The prevalence of children with behavioral problems is comparatively very less in whom good parenting is provided.[38] Effective parenting strategies ensures safe, assertive discipline with realistic expectations.[39] It also creates positive learning environment, provides interactive caring, unconditional love and manages

misbehavior. Parents should be given counselling even before getting pregnant regarding their role and importance in behaviors of children. They should be well aware of the disease and effective parenting strategies to be dealt with. Parents should be aware of dos and don'ts regarding diet. Currently, most of the parents are working and lack effective time with their children which can create a feeling of loneliness and lack of security in children. They should be encouraged to spend quality time with children for playing, talking, eat together and make them feel comfort and proud.

Role of special educators

Children with behavioral issues as a comorbidity of disorders like autism spectrum disorders are often guided by Special educators. They can, in collaboration with other educators and psychologists, help to identify students who may have behavioral issues. They implement behavior management strategies, including positive reinforcement and clear consequences of children's issues. They work closely with families to ensure a consistent approach to manage behavioral issues at home and school and use multi-sensory approaches to engage students and reinforce learning. Teach self-regulation strategies and facilitate social skills training to improve peer interactions and relationships. They stay informed about the latest research and best practices in management of behavioral disorder through ongoing professional development. Special education was not implemented in present case study, since she was in an inpatient setting; which is a limitation to the study.

Conclusion

Behavioral disorders in children require a comprehensive and individualized approach to ensure long-term improvement in cognitive, emotional, and social well-being. This study highlights the effectiveness of an integrated model, combining Ayurvedic interventions, behavioral therapy, parental education and yoga in managing conditions like ADHD and conduct disorders.

The case study demonstrated significant improvements in hyperactivity, aggression, and emotional regulation, validating the role of *Panchakarma* therapies *(virechana, snehapana, nasya), medhya rasayana, and satvavajaya chikitsa* in enhancing neurological and psychological balance. The Conner's Parent Rating Scale assessment reflected measurable progress reinforcing the therapeutic impact of a multidisciplinary intervention strategy.

The integrated approach not only targets symptomatic relief but also addresses the root cause of imbalances, fostering long-term mental and emotional stability. Future research should focus on large-scale clinical trials to establish scientific validation and promote the integration of Ayurveda into mainstream pediatric psychiatric care. Bridging modern psychological sciences with Ayurveda has the potential to revolutionize the management of childhood behavioral disorders, offering sustainable, effective, and non-invasive treatment options for improved quality of life.

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