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Ayurvedic Insights in to Autism Spectrum Disorder: A Holistic Approach to Childhood Development

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Abstract: ***Autism spectrum Disorder (ASD) is a neurodevelopmental disability caused by differences in brain. people with ASD often have problem with social communication and interaction and restricted or repetitive behaviors or interests. The spectrum nature of Autism means that individuals experience symptoms in varying degrees and combinations. It is the world's third most common developmental disorder. According to WHO, 1 in 100 children has autism. For 2020, CDC reported 1 in 36 children (approx.4% and 1% of girls) was estimated to have ASD. These estimates of ADDM network are higher than previous reports of 2000-2018). ASD is a disorder of intellect and mental impairment with variable etiology. Researches suggest that it develops from a combination of genetic and environment influences that may affect child during intra uterine life and also even after birth. Ayurveda understand the nature of human brain in a completely different manner from modern psychiatrics and physiological theories. In Ayurveda, pathogenesis of Autism can be understood as any imbalance in the form of aberration of Dhi, Dhriti or smriti which leads to derangements in budhi as well as in physiological functioning. Its majority of clinical features like poor eye contact, hyperactivity flapping of hand, solitary play etc. resemble features of unmad. The disease like ASD with unknown pathophysiology can be managed by holistics approaches like herbal remedies, panchkarma therapies, diet and lifestyle modification and supportive practices such as yoga and pranayama.***

Keywords: ASD, unmad, Ayurvedic fundamentals, preparation, Panchkarma. pranayama.

1. Introduction

Autism Spectrum Disorder (ASD) a developmental disability caused by differences in the brain. According to CDC, People with ASD often have problems with social communication and interaction and restricted or repetitive behaviour interests. People with ASD may also have different ways of learning, moving or paying attention.

It is the world's third common developmental disorder, so to spread awareness every year 2nd April is marked as Worlds Autism Day. The history of ASD dates back to 1943, when Leo Kemer, an Austrian-America hiatrist and physician, wrote about ASD children with "extreme autistic aloneness" delayed echolalia of sameness (Diagnosis and Screening of Autism CDC, 2020). According to National Institute of Mental Health, Autism is known as a "SPECTRUM disorder because there is wide variation in the type and severity of symptoms people experience.

For the first time the prevalence of ASD lower among white children than among other racial and ethnic groups. INCLEN study suggests that ASD prevalence across five states in north west India was as high as 125 children between 2-6 years age group mal 1 in 80 among children in 6-9 years age. Overall prevalence in India is estimated to be 1 in 89. According to a report by ET Health World, about 18 million people in India are diagnosed with ASD.

ASD begins before the age of 3 years and can last throughout the life; symptoms may improve over time 80% of the brain in developed in first 36 months (years) so this is the ideal time to start the treatment. Some children show ASD symptoms within the first 12 months of life and in others may not show up until 24 months of Age. Some gains new skills and meet developmental milestones until around 18-24 months of age.

The cause of ASD is still uncertain. It is one of the developmental disorders of the brain function Neuroimaging and neurologic studies have shown abnormalities in parietal and frontal association cortex and also revealed lesions in the cerebellum such as cerebellar hypoplasia, purkinje neuronal loss, loss of cerebellar granule cells and loss of cells in cerebellar nuclei. Changes in multiple genetic regions, gene variants potentially contribute to abnormal neuronal and axonal growth, synapse formation and myelination.

It is characterized by atypical and impaired development in social interaction and communication as well as restricted, repetitive behaviors, interests and activities. These symptoms can persist throughout life.

It was last recognized as a diagnosis in the DSM IV and ICD-10, and has been superseded by autism spectrum disorder in the DSM 5 (2013) and ICD-11 (2022)

Autism Spectrum Disorder is not mentioned in any of the major Ayurveda Texts. However, its majority of clinical features like poor eye contact, hyperactivity, flapping of hand solitary play etc resembles features of Unmada disease of Manovahi Srotasa. In Ayurveda, pathogenesis of Autism can be understood as any imbalance in the form of bhrams (aberration) of Dhi, Dhriti or Smriti, whether collectively or singularly due to indulgence in unwholesome action, termed as pragyaparadha which leads to sarvadosh prakopa and various types of derangements in budhi as well as in physiological functioning. Unmad is defined as cognitive distortion pertaining to mind (mana), intellect (budhi), consciousness (smaranshakti), knowledge (gyan), memory (smriti), desire (bhakti), attitude (sheel), activities (shariric chesta) & behaviour (achar)

The symptoms of Unmada are a mixture of features of Vata, Pitta and Kapha singularly or collectively are even seen in Autism. The present article is an effort to interpret and analyse the concept of Ayurvedic pathophysiology and all the aspects for prevention and management of Autism.

2. Material and Method

Information regarding the conditions which is similar to Autism were referred from the classical ayurveda texts, journals and various internet sources and were critically analysed along with the clinical experiences in managing Autism.

Pathophysiology of Autism
Only sporadic information regarding Autism can be found in the classics since no distinct description of the disorder has been included. Nija Nidana and Agantuja nidan may be categorised into sahaja nidana, garbhaja, Janmottara etc

Sahajanidana (genetic factor): Since the embryo's development the womb, according to Acharya Sushruta's literature, the relative existence of tridosha determines a person's health and sickness. The preponderance of kapha and tamo guna may contribute to the development of vishada, nastikam, adharmasheela, budhinirodha and ajnanam. The predominance of vata and raja guna can contribute to the development of dukhbahutam and krodha Beejadushti, the gene responsible fo for the disease's underlying genetic vulnerability, in the result of genetic derangement.

Matruj-pitruj bhavas: Majja in an essential matrujbhava for brain growth (mastullunga). Autisın is said to be caused by a disturbed brain and the vitiation that occurs in matrujbhav contributes to the mentioned issue, much as atmajbhav contributes chetana, buddhi, dhriti, and smriti.

Garbhaja: The significance of what you're doing (garbhinicharya) during the fifth and sixth months of a baby's existence inside the womb, conditions like vatadushti, , which effects manas and buddhi, might arise from the mother's mental state and/or the garbhopaghatkarahar-vihara. Prior to these months, the child's brain is badly harmed by the mother's surroundings and bad thinking

Janmottar: To make matters worse, the hypo-functioning of Dhi, Dhriti and Smriti is worsened by the use of vata prakopaka ahar-vihara.

Aagantuja: Infections and poisoning cause tridosh dushti. Injury or poisoning the growing brain (shirobhighata), regardless of whether the lesion is internal or exterior, this may lead to manovahastratosanga (tamas and rajoguna), which may have an impact on the mental and physical development of the youngster.

Symptoms of Autism Spectrum Disorder:

a) Deficit in social Emotional Interaction:
- Lack of sharing his/her emotions, happiess,distress
- Child may prefer to play alone and do not mix up with other children

b) Deficit in non- verbal communication behaviour:
- Poor integration of verbal and non-verbal behaviour
- Poor eye contact
- Impairment in use of appropriate gesture during social interaction
- Total lack of facial expression while interacting with parents and strangers

c) Stereotype repetitive motor movement or speech
- Child may repeat certain words or phrases regardless of the meaning that he/she heard
- Speak out of context and irrelevantly
- Child may show excitement by flapping his hand, rocking, spinning, or making some unusual hand finger or hand wringing.

d) Others
- Drooling of saliva.

Management

Prevention of autism
Acharya Charak, a renowned Ayurvedic scholar, emphasized the importance of preventing psychological disorders in children, not just from birth but also before conception. This proactive approach underscores the significance of pre-natal and pre-conceptional interventions in minimizing the risk of ASD. Various measures have been prescribed to address this critical period, highlighting the potential for preventive care in promoting healthy neurological development.

Before conception
Before attempting conception, Acharya Charak outlined an extensive list of guidelines and restrictions for women during Ritukala (the fertile period) and pregnancy. These directives aim to minimize factors potentially harmful to the child's psychological development, adhering to these guidelines plays a crucial role in preventing Autism Spectrum Disorder (ASD) and ensuring optimal fetal development

During pregnancy & delivery
Acharya Charaka has advised to avoid various dietetic regimens, habits and trauma in context of Garbhopaghatakara Bhavas (detrimental factors affecting foetus) which can lead to various psychological disorders like mudha (dull), Nidralu (inactive/sleepy), Unmadi etc. In the fourth month of pregnancy, the foetus heart which is the seat of consciousness becomes active, hence it express its desires through the mother, and this state is called Dauhrida (Bi-Cardiac Phase) The wishes and desires of Dauhridini, if not honoured and gratified, may lead to various physical and psychological congenital abnormalities and mental derangements During the process of delivery and neonatal period measures should be tried to prevent complications like prolonged delivery, injury to fetal skull, hypoxia & asphyxia which may vitiate Vata Dosha.

Application of Medhya Rasayana (CNS rejuvenators)
The administration of Medhya drugs, namely Mandukparni, Brahmi, Shankhpushpi, and guduchi, helps maintain and restore body harmony, improving balance between the brain and nervous system in autistic patients

Panchkarma therapy

Panchakarma, an ancient Ayurvedic detoxification therapy, carries a ray of hope for individuals afflicted with neurodevelopmental disorders. Not only can it significantly

improve the quality of life for both the child and caregiver, but it may also gift sufferers with better overall health. Various Panchakarma therapies, including Basti, Nasya, Shirodhara, Abhyanga, and Shashtika Shali Pinda Sweda, have proven beneficial in addressing neurodevelopmental disorders.

Abhyanga, a manual pressure process, employs various techniques and substances to provide relaxation and alleviate diseases. As the body's gateway, the skin plays a vital role in Abhyanga's effects on different bodily system. Drug absorption primarily occurs through the skin's first (Udakdhara) and second (Asrigdhara) layers. Abhyanga influences emotional status through tactile stimulation. Twak or Sparshnendriya, the seat of Vata, benefits from Abhyanga with oil, alleviating vitiated Vata Shiroabhyanga nourishes the Indriya, helping overcome anxiety, stress, and mental fatigue.

Basti is a prime treatment modality for Vata Dosha There no treatment equivalent to Basti in protection of Marma and in the management of their affliation which are considered as vital parts in body. It stabilizes the Ayu (age), and normal functions of Dosha (regulatory functional factors of the body) and Dhatu (major structural components of the body). It may act through neuronal stimulation via Enteric nervous system (ENS) ENS or Gut brain is an integrative system with structural and functional properties like those in Central Nervous system. It lies entirely in the wall of the gut (Mesenteric and Myenteric plexuses), containing approximately 100 million neurons exactly equal to the number in the entire spinal cord. This makes the role of Basti in neurological disorders very clear. Basti reaches up to Grahani. Grahani possess Pittadhara Kala. As per Acharya Dalhana Pittadhara Kala and Majjadhara Kala are same. Thus, it can be interpreted that Basti reaches up to Majja. Moreover, being the best pacifier of Vata, it normalizes the functioning of Vayu. Thus, the role of Basti in neurodevelopmental disorders cannot be neglected.

Shirodhara induces relaxation, characterized by brain wave coherence, a waves, and reduced sympathetic outflow. By targeting the Agya Chakra, Shirodhara promotes psychosomatic harmony, leading to adaptive stress responses.

Nasya Karma delivers drugs directly to the brain, interacting with higher centers, including the limbic system, amygdaloidal complex, and hypothalamus ganglia. This direct impact may regulate nervous system functions, benefiting neurobehavioral disorders.

These Panchakarma therapies offer a comprehensive approach to addressing neurodevelopmental disorders, providing hope for improved quality of life and overall well-being

3. Discussion

Autism Spectrum Disorder (ASD) is a prevalent condition that pediatricians will inevitably encounter in their practice. From an Ayurvedic perspective, autism is believed to result from various factors, including genetic predisposition (Beeja Dosha), inadequate diet (Ahara Dosha), digestive disturbances (Agni Dushti), cognitive problems (Medha), and Vata Dushti

Ayurvedic management of autism encompasses various modalities, such as digestive fire enhancement (Deepan Pachan drugs), cognitive enhancers (Medhya drugs), yoga therapies, specific drugs, diet regimens and Panchakarma therapies (Basti, Shirodhara, Nasya, and Abhyanga). These interventions alleviate Vata Dushti, thereby improving autism symptoms. Ayurveda offers a comprehensive and safe management approach for autistic children, emphasizing long-term intervention and steady improvements after each treatment course. To prevent autism development, raising public awareness about crucial factors is essential. These include Garbhiniparicharya (regimen for pregnant women), Garbhopaghatakar Bhavas (fetal harm factors), and premarital genetic counseling for non-consanguineous marriages, addressing genetic factors (Beeja Dosha) and reducing pregnancy complications.

By adopting this comprehensive Ayurvedic framework, individuals with autism can experience significant improvements Future research initiatives should prioritize Ayurvedic management of autism, offering hope and enhance quality of life for those affected by this condition.

4. Conclusion

Ayurveda prioritizes prevention over management, emphasizing awareness and proactive measures to mitigate the risk of neurological disorders. Key preventive strategies include Medhya Rasayana (cognitive rejuvenation), Ayurvedic formulations, Preconceptional Shodama (purification), Panchakarma (detoxification), and yoga therapies. By adopting these measures, families can reduce the likelihood of neurological disorders. Childlessness is often considered a significant curse, but having a child with a neurological disorder can be equally distressing. Although Autism is not directly mentioned in Ayurveda, the ancient science describes similar characteristics that are indicative of the condition. According to Ayurvedic principles, Vata Dushti is identified as a primary cause of autism, and treatment should focus on normalizing Vata Dosha, tailored to the child's tolerance.

Effective management and potential cure for neurodevelopmental diseases, including autism, can be achieved through Panchakarma therapies. These therapies include Abhyanga (oil massage), Shiroabhyanga (head massage), Shashtik Shali Pinda Swedana (herbal steam bath), Shirodhara (oil drip therapy), Shirobasti (head treatment), Basti (medicated enema), and Nasya (nasal therapy). By incorporating these Ayurvedic approaches, families can find hope in preventing and managing neurological disorders, significantly improving the quality of life for affected children.

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