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CONCEPTUAL UNDERSTANDING OF ADHD THROUGH CLASSICAL AYURVEDIC LITERATURE: A COMPREHENSIVE REVIEW

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ABSTRACT

Attention Deficit Hyperactivity Disorder (ADHD) is a neurodevelopmental condition marked by inattention, impulsivity, and hyperactivity. Though not directly mentioned in *Ayurvedic* texts, not all but many of its features bear strong resemblance to *Vataja Unmada* described in the *Samhitas*. This review explores ADHD through the lens of *Ayurveda*, aiming to establish conceptual correlations and therapeutic possibilities. A comprehensive review of classical *ayurvedic* texts including *Charaka Samhita*, *Sushruta Samhita*, *Ashtanga Hridaya*, and others was undertaken. Relevant descriptions of *Unmada* were extracted and systematically compared with modern clinical features and diagnostic criteria of ADHD. The methodology involved textual analysis, comparative evaluation of causative factors, and exploration of treatment principles. Key findings indicate overlapping features such as restlessness, hyperactivity, and poor concentration. Etiological factors like *Viruddhahara* (incompatible diet) and *Manoabhighata* (psychological trauma) show notable parallels with current research. *Ayurvedic* management strategies emphasize *Ahara* (diet), *Vihara* (lifestyle), *Medhya Rasayana* (nootropic herbs), and *Daivavyapashraya Chikitsa* (spiritual measures). This review highlights *Ayurveda*'s potential contribution in managing ADHD and creates baseline for future clinical trials.

Keywords: ADHD, *Unmada*, *Vataja unmada*, *Unmada chikitsa*, *Mano vikar*, *ayurvedic psychiatry*

INTRODUCTION

ADHD is a neurodevelopmental condition. It is characterised by a persistent pattern of hyperactivity, inattention, or both. In ADHD, Hyperactivity refers to excessive movement or activity at times when it is not appropriate. It can show up as excessive fidgeting, tapping, or talking too much. Inattention is often expressed through behaviours such as becoming easily distracted, failing to follow instructions or complete tasks, struggling to sustain focus, and displaying disorganization despite not having any deficits in understanding or comprehension. ADHD does not present with any specific physical feature. The global prevalence of ADHD is approximately 7.2% in children [1]. It is more commonly observed in males than females, with a male-to-female ratio of 2:1 in children and 1.6:1 in adults [1]. ADHD is associated with reduced academic performance, learning difficulties, and various school-related problems. It is also considered a risk factor for suicidal thoughts and behaviour in both children and adults, with an increased risk of suicide observed in individuals with ADHD [1]. The term ADHD is not directly mentioned in Ayurvedic texts, but its symptoms can be correlated with symptoms of Unmada, particularly *Vataja Unmada*, and with *Manovaha Srotas Dushti*. Unmada has been described in various classical texts such as

the *Charaka Samhita*, *Sushruta Samhita*, *Ashtanga Hridaya*, and *Ashtanga Sangraha* [2]. The Nidana of Unmada also shows similarities with the etiological factors of ADHD. Its management is discussed in several texts, including the *Charaka Samhita*, *Sushruta Samhita*, *Ashtanga Hridaya*, *Ashtanga Sangraha*, *Arogyarakshakalpadruma*, *Arka Prakash*, *Rasatantrasara* va *Siddha Prayogasangraha*, and *Bharata Bhaisajya Ratnakara*. This correlation provides a base for future clinical research, thereby enhancing the credibility of Ayurvedic approaches in the management of ADHD. With the growing demand for holistic and individualized healthcare, such studies can help in developing safe, effective, and comprehensive Ayurvedic treatment strategies for improved understanding and management of ADHD. The present study aims to develop a conceptual understanding of ADHD from an Ayurvedic perspective by critically analysing relevant references from classical Ayurvedic Samhitas and comparing them with modern clinical descriptions. The objectives are to explore the Ayurvedic view of ADHD, correlate its symptoms and etiological factors with contemporary clinical features, and establish a theoretical framework to support future integrative and clinical research for its better understanding and management.

MATERIALS AND METHOD:

This conceptual review study was conducted to explore correlations between classical Ayurvedic concepts and modern understandings of neurodevelopmental disorders. The study utilized both primary and secondary data sources.

Primary data obtained from Classical Ayurvedic texts. Secondary data obtained from Modern scientific literature including the DSM-5, peer-reviewed journals, and scientific databases such as PubMed, Google Scholar, and the AYUSH Research Portal.

RESULTS

Ayurvedic understanding of unmada

According to *Acharya Charaka*, *Unmada* is a condition marked by disturbance in various mental faculties, including the mind (manas), intellect (buddhi), consciousness (Sanjna), perception (jnana), memory (smriti), emotional inclination (bhakti), character (sheela), actions (chesta), and overall conduct (achara) [3].

Among all types of *Unmada*, the symptoms of *Vataja Unmada* show the more resemblance to symptoms of ADHD.

According to Charaka, the symptoms of *Vataja Unmada* such as *asthan hasya* (inappropriate laughter), *smita* (meaningless smiling), *nrutya* (inappropriate dancing), *geet* (singing), *vaga* (meaningless speech), *gatra vikshepan* (involuntary body movements, fidgeting, hyperactivity, restlessness), *rodan* (crying), *parushya* (stiffness), *karshya* (leanness), *arun varnata* (reddish body complexion), and *jirne bala* (aggravation of symptoms after digestion) can be correlated with the symptoms of the hyperactive type of ADHD as described in the DSM-5 diagnostic criteria [2, 4].

There is no direct term for ADHD in Ayurveda but based on the symptoms and irregular behaviours described in Ayurvedic texts may be correlated with it. These behaviours often arise from the vitiation of Dhee (rational thinking), Smriti (memory), and Dhriti (the intellect or power of mental retention). Such disturbances disrupt the coordination between the senses and their respective objects, leading to impulsivity, hyperactivity, and inattention key characteristics associated with ADHD.

Table 1: Symptoms of Vataja unmada described as per various ayurvedic samhitas

Samhita	Vataja unmadaa laksana
Charaka Samhita [4]	<i>Asthan hasya</i> , <i>smita</i> , <i>nrutya</i> , <i>geet</i> , <i>vaga</i> (inappropriate dancing, singing, blabbering), <i>Gatravikshepana</i> (involuntary body movement, fidgeting, hyperactivity, restlessness), <i>Rodana</i> (crying), <i>Parushya</i> (stiffness), <i>Karshya</i> (leanness), <i>Arun varnata</i> (reddish body complexion), <i>Jeerne bala</i> (increased symptoms after digestion)
Sushruta Samhita [5]	<i>Rukshachhavi</i> (dry complexion), <i>Parushvaga</i> (rough voice), <i>Dhamanitato</i> (prominent vein), <i>Shitatura</i> (desire or craving for cold items), <i>Krushatanu</i> (lean and emaciated body), <i>Sphuritaangatanu</i> (twitching body parts), <i>Asphota</i> (cracking sounds from joints), <i>tatyati</i> (wondering), <i>Gayati</i> (singing), <i>Nrutyasheela</i> (dancing), <i>Vikroshati</i> (cries and screams), <i>Bhramyati</i> (wondering and shows confused body movement)
Astanga samgraha [6]	<i>Asthana hasita smit nrutya geeta vaga</i> , <i>Gatra anga vikshepana</i>

	<i>Vagabheda, Bhru vikshepa, Rodana, Kroshana, Sphotan, Paryatanama asra, Phenogama, Yanama, Matsarya, Karshya, Parushya, Utpidita, Rukshata, Jirnaanane atibalatva</i>
<i>Astanga hrdaya</i> [7]	<i>Krusangata, Asthan rodan hasit smit, Geet vadita, Anga viksepana, Sphotanani, Venu veena sabda anukarana, Asyata phenogama, Bahu bhasita, Aruna Akshi</i>

Etiological factor behind unmada

In the Unmada Chikitsa (9th chapter) Charaka describes several etiological factors responsible for Unmada. These include incompatible dietary combinations (*Viruddhahara*), consumption of unclean or impure food (*Ashuddha Ahara*), ingestion of poisonous substances, disrespect toward teachers and deities, extreme emotions such as excessive fear or joy, and psychological shock or head injury (*Mano-abhigata*) [8].

Incompatible dietary combination or *viruddhahara* as etiological factor for unmada or ADHD

As *acharya charaka* explained in *sutra sthan viruddhaahara* means “*Yata kinchit dosama śravya na nirhr̥ta kayata aharajata tata sarvam ahitaya upadhyate*”

The term “*Viruddhahara*” refers to foods or medications that cause the dosha to shift from its native place but do not expel out of the body. *Viruddhahara* can result in the creation of Ama, which are damaging free radicals or partially digested food that the body is unable to absorb.

There are 18 types of *Viruddha Ahara*. *Desha Viruddha* refers to foods unsuitable for the region or those having similar properties to the *desha*, such as *ruksha tikshna ahara* in *maru bhumi* (consumption

of alcohol in desert land) and *snigdha sheeta ahara* in *anupa bhumi* (cold milkshake and juice in marshy land). *Kaala Viruddha* includes foods unsuitable for the season or having similar properties to the season, such as spicy food in summer and consumption of ice cream in winter. *Agni Viruddha* is food taken without knowledge of an individual’s digestive fire, for example, consumption of heavy food like *ghruta* and paneer in mild digestive fire. *Maatra Viruddha* refers to wrong proportions, such as equal mix of ghee and honey. *Satmya Viruddha* includes foods not habitual to the individual, such as Chinese food or Italian food by an Indian, or a person used to *madhura rasa* taking *katu* or spicy food. *Dosha Viruddha* refers to foods aggravating existing doshas, such as *kashaya rasa* for *vata dosha* and *madhura rasa* for *kapha*. *Samskara Viruddha* is food prepared by wrong method or improperly processed foods, such as French fries fried in reheated oil. *Veerya Viruddha* means consuming foods with opposing potencies, such as fish with milk or ice cream with hot brownie. *Krama Viruddha* refers to food consumed in the wrong sequence. *Koshta Viruddha* includes foods unsuitable for bowel nature, such as strong laxative in

mrudu koshta person or barbequed or baked food in *krura koshta*. *Avastha Viruddha* refers to foods unsuitable for health condition, such as cold ice cream in *kasa*. *Parihara Viruddha* means cold items after hot food, such as cold drink after samosa. *Paak Viruddha* includes undercooked foods, such as half baked food, half fried egg, and sprouts. *Upachara Viruddha* refers to foods unsuitable post-treatment. *Samyoga Viruddha* means incompatible combinations, such as fruit milkshake. *Hrut Viruddha* includes unpleasant foods, such as bitter food for children. *Sampat Viruddha* refers to food items prepared using unhealthy or poor quality ingredients, such as packet foods, chips, biscuits, instant noodles, and soft drinks. *Vidhi Viruddha* means violation of dietary rules, such as consuming food which is not hot or fresh, like lunchbox food [9].

Role of gut microbe in ADHD

Reduced Faecalibacterium in ADHD may cause more inflammatory cytokines to pass the blood-brain barrier.

The genus Bifidobacterium is associated with the cyclohexadienyl dehydratase (CDT) enzyme, essential for synthesizing phenylalanine a precursor to dopamine, L-DOPA, and noradrenaline. In adults, increased Bifidobacterium can raise CDT activity, influencing nervous system development. However, excessive phenylalanine from elevated CDT and

Bifidobacterium levels may disrupt dopamine-related functions, potentially contributing to ADHD. While neuroimaging can detect such impairments, further studies are needed to clarify the precise mechanisms linking Bifidobacterium, CDT, and ADHD.

SCFAs (propionate, butyrate, and acetate) regulate neurotransmitter synthesis (propionate → serotonin via tryptophan hydroxylase), strengthen tight junctions, modulate neuroinflammation, and boost antioxidant enzymes. They also pass the blood-brain barrier.

But too much propionate can exacerbate hyperactivity. While generally positive, SCFA effects can occasionally be conflicting.

GABA: Research indicates a decrease in Gamma-Aminobutyric Acid (GABA) levels in ADHD. GABA is an inhibitory neurotransmitter that reduces nervous system activity, which can aid with ADHD symptoms. The ability of several gut microbiota, including Parabacteroides, Prevotella, Bifidobacterium, Lactobacillus, and Escherichia coli, to create GABA suggests that they may be useful targets for treatment [10].

Ayurvedic and Modern Perspective on the Pathophysiology of Unmada/ADHD

Incompatible food, *Viruddha Ahara*, disturbs *Agni* (digestive fire), vitiates *Doshas*, forms *Ama* (toxins), and damages *Manovaha Srotas* (mental channels). *Pitta*

violation results in violence and hallucinations, *Kapha* dominance produces features similar to autism, and *vata* aggravation creates ADHD-like symptoms (restlessness, anxiety).

The gut microbiome is essential for overall wellness, predominantly shaped by diet and digestion. It differs among individuals and across various regions of the intestine, with certain microbes being vital for immunological functions. An imbalance of microbes, known as dysbiosis, can arise from factors such as excessive antibiotic use and unsuitable food choices, leading to issues like asthma, obesity, allergies, and autism spectrum disorders. The gut microbiome significantly influences brain function and mental health via the gut-brain axis, a complex system that includes the brain, immune system, endocrine system, enteric nervous system (ENS), and gut bacteria. This connection enables a two-way exchange of information between the gut and the brain. The vagus nerve, a crucial and extensive nerve throughout the body, serves as the most direct route for communication, regulating a wide range of internal functions. Moreover, the gut and brain

interact indirectly through various chemical messengers, such as neurotransmitters, hormones, and peptides. The gut itself generates many of these bioactive substances, which are also found in the brain, and their release is affected by the composition of the gut microbiome [10, 11].

5.6 Brain injury or *manoabhighata* as an etiological factor for *unmada* or ADHD

Manoabhighata (mental or head trauma) is mentioned as one of the causes of *Unmada* (insanity/mental disorder) in the *Charaka Samhita* under *Unmada Nidana* [9]. According to research in contemporary neuropsychiatry, traumatic brain injury (TBI), particularly during childhood, is significantly linked to the later emergence of symptoms similar to ADHD, including hyperactivity, impulsivity, and attention problems [11, 12].

Ayurveda management through various *Samhita*

Many formulations are mentioned in the management of ADHD in various *Samhitas*. In the *Vataja* type of *unmada*, the first line of treatment is *snehapana*. If the passage is obstructed, *Mrudu Virechana* is advised.

Table 2: Classical Ayurvedic Medicines with Potential Role in ADHD according to various Samhita

Sr no	Samhita	Formulation
1	<i>Charak Samhita</i> [13]	<i>Kalyanak ghruta, Mahakalyanak ghruta, Mahapaishachika ghruta, Lasunadya ghruta, Sidharthak ghruta, Sidharthak agad, Hingvadya ghruta, Purana ghruta</i>
2	<i>Sushruta Samhita</i> [14]	<i>Mahalayanaka ghruta, Brahmyadi varti, Phalaghruta</i>
3	<i>Astanga hrdaya</i> [15]	<i>Hinguvadi ghruta, Kalyanak ghruta, Mahakalyanak ghruta, Mahapaishachik ghruta, Unmadasadani varti</i>
4	<i>Astanga Sangraha</i> [16]	<i>Brahmi ghruta, Kalyanaka ghruta, Mahakalyanaka ghruta, Mahapaishachika ghruta, Lasunadi ghruta</i>

5	<i>Arogyarakshakalpadhruma</i> [17]	<i>Nilotpaladi taila (external use), Draksha samngadi Kashaya, Abhrumuladi Kashaya, Somavallyadi Kashaya, Draksha madhukadi Kashaya, Balakanakpatradi Kashaya, Kalyanak ghruta, Maha kalyanak ghruta, Manasa mitra vataka</i>
6	<i>Arka prakasha</i> [18]	<i>Kusumand arka, Sankhapuspi arka</i>
7	<i>Rasatantrasara va siddha prayoga sangraha</i> [19]	<i>Dhanvantar ghruta, Brahmi ghruta, Mahapaishachika ghruta, Lasunadi ghruta, Hinguvadi ghruta, Unmada gajankusha rasa, Chatubhurja rasa, Mahachaitasa ghruta, Brahmi taila, Vijayasatvadi vati, Chandasava, Mahabhutarav ghruta</i>
8	<i>Bharat bhaisajya ratnakara</i> [20]	<i>Sarsvata churna, Sankhapuspadya ghruta, Sarsvata ghruta, Suryodaya ghruta, Hinguvadi ghruta, Sirisha Anjana, Swarna yoga</i>

Daiva-Vyapasraya chikitsa

The worship of *Pramatha*, the attendant of Lord Rudra who roams throughout the universe, is considered beneficial in relieving *Unmada*. Along with this, wearing *talismans* containing antitoxic herbs, practicing truthfulness, maintaining proper and disciplined behavior, observing penance, acquiring knowledge, performing charity, showing respect to elders, and offering regular prayers to God are advised as supportive measures for recovery [21].

6. DISCUSSION

ADHD is a neurodevelopmental disorder characterized by a persistent pattern of inattention and/or hyperactivity–impulsivity that affects daily functioning and development. According to the DSM-5, ADHD can present in three subtypes: combined presentation, predominantly inattentive presentation, and predominantly hyperactive-impulsive presentation [1]. The hyperactive-impulsive type, in particular, shows symptomatic similarities to *Vataja Unmada* described in Ayurveda. Except for *aruna varṇata* (reddishness of the body),

Vataja Unmada is characterized by features such as *asthana hasa* (inappropriate laughter), *asthana smita* (meaningless smiling), *asthana nrutya* (inappropriate dancing), *vag vikara* (irrelevant speech), *gatra vikshepa* (restlessness and involuntary body movements), and *rodana* (inappropriate crying). These manifestations closely resemble the hyperactive behaviors observed in ADHD, including excessive motor activity, fidgeting, talkativeness, and impulsivity. Additionally,

karsyata (emaciation) is a symptom of *Vataja Unmada* but is considered a risk factor for ADHD according to the DSM [1, 4].

In the *Unmada Chikitsa* (9th chapter), Charaka outlines several etiological factors responsible for *Unmada*, including incompatible dietary combinations (*viruddhahara*), consumption of impure or unwholesome food (*asuddhahara*), ingestion of poisonous substances, extreme emotions such as excessive fear or joy, and psychological shock or head injury (*manoabhighata*).

Excluding the factors of disrespect toward teachers and deities, many of these causes show remarkable similarity to those implicated in Attention ADHD. In *Ayurveda*, *viruddhahara* and *asuddhahara* are recognized as significant contributors to mental disturbances, including *Unmada*. Contemporary research supports this, suggesting that such dietary patterns can disrupt gut microbiota a factor increasingly linked to the pathogenesis of ADHD. Likewise, *mano abhigata*, referring to psychological trauma or brain injury, aligns with modern evidence showing that traumatic brain injury can increase the risk of developing ADHD [9, 10].

In The study by James D.Kean. (2018) evaluated standardized *Bacopa monnieri* extract (CDRI 08) versus placebo for 14 weeks in children and adolescents with ADHD, showing potential benefits in attention, cognition, and behavioral symptoms, these findings support CDRI 08 as a promising therapeutic option [22].

In the study of Gupta and Mamidi (2013) reported that most participants were male ($\approx 3:1$ ratio) and aged 5–12 years, when ADHD symptoms become more apparent with increasing with age and self-management demands. The majority belonged to rural Muslim backgrounds and commonly consumed sweets, chocolates, and bakery items. Both *Naladadi Ghrita* and *Kushmanda Ghrita* were found equally

effective in managing ADHD, with no significant difference between them [23].

All the studies conducted on ADHD have shown that Ayurvedic management provides significant results. Therefore, the formulations mentioned above in the article can be considered for clinical studies.

CONCLUSION

Vataja Unmada shares several features with ADHD, a critical mapping of symptoms reveals both overlap and divergence. Hyperactivity, restlessness, impulsive speech, and emotional instability correspond well with DSM-5 criteria for hyperactive-impulsive ADHD. However, descriptions such as inappropriate dancing and singing are not core features of ADHD, and instead suggest a broader spectrum of *Vata*-related psychiatric manifestations. This indicates that Ayurveda conceptualizes ADHD not as an isolated disorder but as part of a wider continuum of *Unmada* states dominated by *Vata* derangement.

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REFERENCES

- [1] American Psychiatric Association, Diagnostic and Statistical Manual of Mental Disorders, 5th Ed, American Psychiatric Association, Arlington (VA), 2022, p. 71–74.
- [2] American Psychiatric Association, Diagnostic and Statistical Manual of Mental Disorders, 5th Ed, American Psychiatric Association, Arlington (VA), 2022, p. 69–70.
- [3] Sharma RK, Dash B, Agnivesa's Caraka Samhita: Text with English Translation and Critical Exposition Based on Cakrapani Datta's Ayurveda Dipika, Vol. II (Nidanasthana), Chowkhamba Sanskrit Series Office, Varanasi, 2015, p. 89.
- [4] Sharma RK, Dash B, Caraka Samhita of Agnivesa: Text with English Translation and Critical Exposition Based on Cakrapani Datta's Ayurveda Dipika, Vol. III (Cikitsasthana), Chowkhamba Sanskrit Series Office, Varanasi, 2016, p. 411–412.
- [5] Susruta, Susrutasamhita (Uttaratantra), Ed by Kaviraja Ambikadutta sastri, Part II, Chaukhambha Sanskrit Sansthan, Varanasi, 2018, p. 582.
- [6] Murthy KRS, Astanga Samgraha of Vagbhaṭa: Text, English Translation, Notes and Indices, Vol. 3, 1st Ed, Chaukhambha Orientalia, Varanasi, 2012, p. 88.
- [7] Tripathi B, Srimad Vagbhaṭa Racita Aṣṭangahrdayam, Chaukhambha Sanskrit Pratishthan, Delhi, 2019, p. 922.
- [8] Sharma RK, Dash B, Caraka Samhita of Agnivesa: Text with English Translation and Critical Exposition Based on Cakrapani Datta's Ayurveda Dipika, Vol. III (Cikitsasthana), Chowkhamba Sanskrit Series Office, Varanasi, 2016, p. 409.
- [9] Sharma RK, Dash B, Caraka Samhita of Agnivesa: Text with English Translation and Critical Exposition Based on Cakrapani Datta's Ayurveda Dipika, Vol. I, Chowkhamba Sanskrit Series Office, Varanasi, 2016, p. 485.
- [10] Shirvani-Rad S, Ejtahed HS, Marvasti FE, Taghavi M, Sharifi F, Arzaghi SM, *et al.*, The Role of Gut Microbiota–Brain Axis in Pathophysiology of ADHD: A Systematic Review, J Atten Disord, 2022.
- [11] Sharma RK, Dash B, Caraka Samhita of Agnivesa: Text with English Translation and Critical Exposition Based on Cakrapani Datta's Ayurveda Dipika, Vol. III

- (Cikitsasthana), Chowkhamba Sanskrit Series Office, Varanasi, 2016, p. 410.
- [12] Adeyemo BO, Biederman J, Zafonte R, Kagan E, Spencer TJ, Uchida M, *et al.*, Mild Traumatic Brain Injury and ADHD: A Systematic Review of the Literature and Meta-analysis, *J Atten Disord*, 2014, p. 1–9.
- [13] Sharma RK, Dash B, Caraka Saṃhita of Agnivesa: Text with English Translation and Critical Exposition Based on Cakrapāṇi Datta's Ayurveda Dipika, Vol. III (Cikitsasthana), Chowkhamba Sanskrit Series Office, Varanasi, 2016, p. 424–430.
- [14] Susruta, Susrutasamhita (Uttaratantra), Ed by Kaviraja Ambikadutta sastri, Part II, Chaukhambha Sanskrit Sansthan, Varanasi, 2018, p. 588.
- [15] Tripathi B, Srimad Vagbhāṭa Racita Aṣṭāṅghrdayam, Chaukhambha Sanskrit Pratishthan, Delhi, 2019, p. 924–925.
- [16] Murthy KRS, Astanga Saṃgraha of Vagbhāṭa: Text, English Translation, Notes and Indices, Vol. 3, 1st Ed, Chaukhambha Orientalia, Varanasi, 2012, p. 91–92.
- [17] Krishnan L, Arogya Raksha Kalpadrumah: Kerala's Tradition of Ayurvedic Pediatric Care, Chaukhambha Sanskrit Series Office, Varanasi, 2012, p. 361–365.
- [18] Pandey G, Ravana's Arkaprakasha: Sanskrit Text with English Commentary, Chaukhambha Sanskrit Series Office, Varanasi, 2018, p. 134.
- [19] Thakur N, Rasatantrasara va Siddha Prayogasangraha, Part II, Krushna Gopala Ayurveda Bhawana, Ajmer, 2017, p. 136–141.
- [20] Shah NC, Bharata Bhaisajyaratnakara Ayurveda Grantha, Part 5, B Jain Publishers Pvt Ltd, New Delhi, 2022, p. 809.
- [21] Sharma RK, Dash B, Caraka Saṃhita of Agnivesa: Text with English Translation and Critical Exposition Based on Cakrapāṇi Datta's Ayurveda Dīpikā, Vol. III (Cikitsasthana), Chowkhamba Sanskrit Series Office, Varanasi, 2016, p. 439.
- [22] Kean JD, Kaufman J, Lomas J, Goh A, White D, Simpson D, *et al.*, A Randomized Controlled Trial Investigating the Effects of a Special Extract of Bacopa monnieri (CDRI-08) on Hyperactivity and Inattention in Male Children and

Adolescents: BACHI Study
Protocol, *Nutrients*, 7(12), 2015, p.
9931–9945.

- [23] Gupta K, Mamidi P, A Comparative
Study on Naladadi Ghrita and
Kushmanda Ghrita in Attention-
Deficit/Hyperactivity Disorder, *Int
J Green Pharm*, 7, 2013, p. 322–
327.