Skanda (Bala Graha) and Cerebral Palsy – A Review

Pinakumari I. Patel¹, Swapnil C. Raskar¹*, Aboli Patil¹, Sudhir Pani¹ and Vishal Prajapati¹

¹Department of Kaumarbhritya, Parul Institute of Ayurved, Parul University, Limda Vadodara Gujarat, India.

Authors’ contributions

This work was carried out in collaboration among all authors. All authors read and approved the final manuscript.

Article Information

DOI: 10.9734/JPRI/2021/v33i45A32724

Editor(s):
(1) Dr. Prem K. Ramasamy, Brandeis University, USA.
(2) Dr. Sung-Kun Kim, Northeastern State University, USA.

Reviewers:
(1) Somenath Ghosh, Rajendra college, Jai Prakash University, India.
(2) Roshani Verma, India.
(3) Justin R Nayagam, Union Christian College, India.
(4) Supriya Salil Barsode, BVDUMC, India.
(5) Rajesh A. Shastry, Rajiv Gandhi University of Health Sciences, India.

Complete Peer review History: https://www.sdiarticle4.com/review-history/74115

Received 14 July 2021
Accepted 24 September 2021
Published 29 September 2021

ABSTRACT

Among the Ashtanga Ayurveda, Kaumarbhritya focuses on child care in particular. Graharogais the most neglected portion due to excess mythological explanation, difficulty in clinical understanding, diagnosis, severity, complication, and treatment is entirely different from the routine disorder of children. Graharogas are those entities that attack and seize the body then affect the neonates and children very quickly with high mortality. Different acharyas describe Graha with their types, symptoms and treatment. Acharya Sushruta and Acharya Vagabhatta describe Skanda graha-commander-in-chief of the army of Devatas. The symptoms of the affected child resemble very much with Quadriplegic Cerebral Palsy. Cerebral palsy (CP) is the leading cause of childhood disability affecting function and development. The motor disorders of cerebral palsy are often accompanied by disturbances of sensation, perception, cognition communication, and behavior. Therefore, this paper aims to understand Balagraha with the modern aspect as well as its clinical application in day-to-day practice.

Keywords: Ayurveda; Bala Graha; Skanda Graha; Kaumarbhritya.

*Corresponding author: E-mail: neonatecare99@gmail.com;
1. INTRODUCTION

Among the Ashtanga Ayurveda, Kaumarmritya is the one focuses on child care in particular. There includes a detailed description of children's ailments, as well as information on how to prevent them and how to treat them. Graharoga is the most neglected portion due to excess mythological explanation, difficulty in clinical understanding, diagnosis, severity, complication, and treatment is entirely different to routine disorder of children. Graharogas of Kaumarmrityaare different entities than Grahabadha. Graharogas are those entities which attack and seize the body. They affect a large number of neonates and pediatric age group. Their progression in the human body is quite quick, and they have a high fatality rate. In certain cases, they endanger the lives of the children who are impacted. Disease caused by unidentified factors are termed asidioticpath in modern science butBalagragraha, Jataharimis, Matrikas, Adibalprirvita and Janambalprirvita, etc. Disorders are associated with goddesses, earlier birth sins, and evil deeds in our daily lives in our classics. Grahas afflict children for worship if the wet nurse and mother engaged in previously forbidden activities, are unhygienic, and do not behave in an auspicious manner, or if the children themselves are terrified, excised, terrorized, and beaten [1].

The oldest literature we have is the Vedas, which clearly describe grahas a source of sickness. The Rig-veda first mentions bhutas as a threat to the fetus and infant [2]. The word grahi, according to Acharya Sayana, means “to hurt the infant.” Mahabharata explained the morphology of the grahas with their physical character and symptoms of grahas. Varahamihira explains the effect of worshipping the grahas. A More significant contribution was given by Agnipurana which explains 38 Grahas attacking from the first day to 17 years of life is explained. Markandeya Purana explains 16 demons out of which 8 are male and 8 are female. According to mythology Lord Shiva appointed 5 male and 7 female Grahas for and to protect his son Kartikeya. Skanda graha is produced by Lord Shiva whereas Skanda Apasmara by Agni, Naigamesa by Parvati, and Mukhamandika and Putana by Kartikeya [3] Acharya Charak didn’t mention any numbering and called them asankhya. Bhavprakasha and Susruta described 9 Grahas to which Vagbhataan Yogratnakara added 3 more Grahas. 12 Grahas out of which 5 are said to be male Grahas and 7 are female Grahas. Harit described about only 8 Grahas [4].

2. GRAHA TYPES ACCORDING TO DIFFERENT SAMHITA

Sushruta explains predisposing factors, mode of onset, manifestation, management with general and specific gunas of Graha named –Skanda, Skandapasmara, Shakuni, Revati, Putana, Andhaputana, Shitaputana, Mukhamandika, and Naigamesa. Sushruta cautioned that wounds are to be protected from grahas and a neonate shall be nursed like a wounded person. In Uttara tantra of Sushruta Samhita, a detailed description of grahas available.

In Ashtangasamgraha, Acharya Vagbhata has added three more grahas named Swagraha, Pitrigraha, and ShushkaRevati. Twelve grahas which have been classified as five male—Skanda, Vishakha, Mesha, Swagraha, Pitrigraha [5] while five femalegraha which are seven – Shakuni, Putana, Shitaputana, Andha Putana, Mukhamandika, Revati and ShushkaRevati [6]. Vagbhata has clarified that Grahas an attack for three purposes Hinsa(to victimize) Archana (to get worshipped) Rati (to combat the sexual urges) [7].

Kashyap Samhita gives more importance to all Samhitas. The first reference is in sutra sthana [8] described vitiation of breast milk of wet nurse by Swagraha like Shakuni, Skanda, Shashhti and Putana. However, description is incomplete due to the extinction of the manuscript. On consumption of such milk, child can suffer various features of graha. The second reference of balagragraha is in Indriyas than describe symptoms of an affected children with various graha like Skanda, Skandapasmara, Pitriskanda, Pundarika, Revati, Shushkarevati, Shakuni, Mukhamandika, Putana and Naigamesa. While third or final reference has seen in Chikitasasthana about treatment of child affected by Revati, Putana, Andhaputana, Shitaputana, Kataputana, and Mukhamandika grahas. In klpasthana, Revati with prime importance and has been mentioned with its twenty names.

Acharya Kashyapa has described morphology, habitat and characters of grahas in Revati kalmadhyaya that Grahas are visible only to divine vision (dvychakshu) [9]. They are fond of rakta, mamsa and ojas. These are night wanderers. These dwell at water tanks.
(Shitaputana), ruined houses (Putana), cow-sheds (Mukhamandika) and bases of the trees (Pitrigraha). Jataharini which attacks pregnant and fetus is highly contagious. These vitiate the breast milk of dhatri too.

In modern medical sciences, these Grahas are correlated with infectious agents which may be viruses, bacteria, fungi, or other microbes. Microbes can easily be infected due to a lack of hygienic environment, low immunity in children, and psychological misconduct in both children and mothers.

3. ETIOLOGY OF GRAHAAVESHA

The main reason for grahavesha is not to follow the principles of hygiene mention in swasthvrutta. Unhygienic conduct of mother or frightening of the child or where benedictory rites have not performed the child is attacked by graha and child suffers from such imposed disease [10,11].

4. PATHOGENESIS

A Graha is said to enter the body unseen like an image in a mirror-like a transformation of heat, like the focusing of the rays in a lens or like the soul entering the body [12].

One relayed unhygienic conditions, violation of rule and regulation of lifestyle of child or mothers such as feeding in an unclean and broken vessel with unhealthy condition of surrounding environment. These sound the susceptibility for the precipitation of unhygienic environment together with less immunity of the child which can easily invite the infliction of microbes. Other reason includes excessive indulgence of child’s wet nurse or mother in eating, sex, sleep, exercise, harmful activities and other unreligious conducts etc.

Vagbhatta has clarified that the colonies of grahas are innumerable which wander around the world in various shapes to attack the people for threefold purposes viz. victimize, to combat the sexual urges and worship [13].

5. PURVAROOPA

According to vagbhattaPratatrodanam(Weeping) and Jwara(fever) are only two symptoms of graha [14].

6. SAMANYA LAKSHAN

Whengraha attack with an evil motto, the child becomes frightened, cries, loses consciousness, grinds the teeth, huns, yawns, vomits froth or pus, passes loose motion with mucus and refuses to breastfeeds. He emits a fishy, bed bug-like or fleshy smell, thus producing various symptoms of infection of different systems of the body [15,16].

7. SAMANYA CHIKITSA SUTRA

The general line of management as mentioned earlier holds good for all graharogas by giving priority to absolute hygiene and immunity of baby, mother/dhatri, a physician is essential immunity besides symptomatic management. Different herbal combinations in the ancient classics towards Pradeha, Parisechana, Lepa, Abhyanga, Bali, Snana, japa, Dhupana and Dharana are mentioned with differentiation of the drugs as per varying graharogas [17] Daivyapashraya chikitsa includes Mantrapryoga, Swasti vachana, Bali, Mangal homa [18].

Consumption of Ghritas like Astamangalaghrita, [19] Sarvgraharogaghirtha, sarivasighrta [20] and oil preparation like Mahamasha oil, Jyotishmati oil. Symptomatic treatment according to developed signs and symptoms.

8. MATERIALS AND METHODS

Data and information regarding the GrahaRoga in children collected from different Ayurveda Samhita and related texts, modern pediatrics books, ebooks, health magazines, news papers, various research articles from different journals, websites and references from the different kinds of textbooks on pediatric practice.

9. SKAND GRAHA

Skanda garah has been explained by almost all the authors who had discussed the graharogas also holds another name ‘kumara’ [21]. He has been described as the one which is empowered with Taposhakti, Tejashwi, Yashshvi and Balaadha. Skanda is the commander-in-chief of the army of Devataas and pierced with his weapon through the heart of Raakshasi Krouncha with a single shot. He has an effulgent red body decked with garlands and red flowers. His body is smeared with red sandal paste and he receives all the energies produced by austerities. Skanda Graha is having Teja, SwasthaShareera, Putra of Mahadeva, Agni & Ganga [22].
**LASHAN ACCORDING TO DIFFERENT TEXTS**

Following Table showing the explanation of Skanda Graha in different Ayurveda text at a glance

| Lakshana of skandagraha affected child | Charaka | shushruta | vagbhatta | harita | yogratnakara | Bhaishajya Ratnavali | Madhava Nidana |
|---------------------------------------|---------|-----------|-----------|--------|--------------|---------------------|---------------|
| Eknayanstravi (tears from one eye)    | +       |           |           |        |              |                     |               |
| Siro vikshipatemruhu (shaking of head)|          | +         |           | +      |              |                     | +             |
| Hat ekpaksh (loss of control over half body) | + |           |           |        |              |                     |               |
| Stabdhang (stiffness of body part)   | +       |           |           | +      |              |                     |               |
| Sasweda (excessive sweating)         | +       |           |           | +      |              |                     |               |
| Natkandhara (shoulders drooling down) | +       |           |           |        |              |                     |               |
| Dantkhadi (grinding of the teeth)    | +       |           |           | +      |              |                     |               |
| Stanadweshi (Aversion to stana)      | +       |           |           | +      |              |                     |               |
| TrasyanaRoditiviswaram (cries in abnormal voice) | + |           |           |        |              |                     | +             |
| Vakravktro (irregular face)          | +       |           |           | +      |              |                     |               |
| Vaman (vomiting)                     | +       |           |           |        |              |                     |               |
| Lala (profuse salivation)            | +       |           |           |        |              |                     |               |
| Urdhvanirikshte (gaze fixed upwards) |          | +         |           | +      |              |                     | +             |
| Vasa asrug Gandhi (smell of muscle fat and blood) | Kshtajagandhi | + |           |        |              |                     |               |
| Udwigna (irritability)               | +       |           |           |        |              |                     |               |
| Badhhsakrit (non elimination of faeces of only one eye) | + |           |           | +      |              |                     |               |
| Chalekakshi, ganda, bhru (movement of one brow and cheek only) | + |           |           |        |              |                     |               |
| Saraktaubhayalochna (redness of both eyes) | + |           |           |        |              |                     |               |
### DAIVAVYAPSHRAYA

| SR NO | SUSHRUT SAMHITA | ASTANG HRIDYA | YOGARATNAKAR |
|-------|-----------------|---------------|---------------|
| 1     | **BALI**        | offering should be made of red garlands and banners, perfumes, various edibles, bell and a healthy cock to god. | Same as *sushruta* Mentioned |
| 2     | **HOMA**        | Fire sacrifices along with chanting | |
| 3     | **RITUALS**     | On crossroad circle should be made with new cereals -rice and barley, there in the child should be bathed and water incanted with *gayatri mantra* for three consecutive night and fire should be ignite with utterance of *vyahati*. | |
| 4     | **FOR PHYSICIANS** | protective rites for physician for the child with avert all sins and should be performed daily. | |
### Yuktivypashraya

| SR NO | Parisechan a | Abhyanga | Sarpi pan | Dhupana | Aushadhi dharana | Snana |
|-------|--------------|----------|-----------|---------|------------------|-------|
| 1     | Sushrut Samhita | decoction of leaves of the vata alleviating plants | medicated oil cooked with the root of vata alleviating plants along with paste of all aromatic, clear wine, and kaidra | ghee cooked with devedurasna, sweet plants along with milk | with sarsapa, slough of snake, vakac, kakdani, ghrita, hairs of camel, goat, sheep and cow. | somavalli, indravalli, sami, throns of bilva and root of indravarooni should be strung and worn. | On cross road for three days with water incanted with gayatri manta |
| 2     | AstangHridya | Puranghata | Ghee cooked with Ananta, amrasthi, tagar, madhrgana, hringalvinna, musta, decoction of dashmoola and milk | 1. Dashang godhup 2. Puti, dasang, sidhharthak, vakac, dipyak etc. | | Putikaranj, tvak, patra, ela, kshiritrees, tumbi, vishala etc |
| 3     | Bhaishyaratn avali | | | Anulepana - kalka of green leaves of plant saptachada, nisha, kustha, chandana. | | Mura, mansi, vakac, kustha, sahaileya, rajnidaya, shati, champak, musta |
| 4     | Yogratnakar | | | Somvalli, indravisha, brihati, bilva, shami etc. | | On cross road for three days with water incanted with gayatri manta |
**Lakshana** resemble of balagraha and quadriplegic cerebral palsy

| Lakshana of skandagraha affected child | Symptoms of Quadriplegic Cerebral palsy |
|--------------------------------------|----------------------------------------|
| Eknayanstravi (tears from one eye)   | Poor head control                      |
| Siro vikshipatemruhu (shaking of head)| Impaired all extremities               |
| Hat ekpaksh (loss of control over half body) | Increased muscle tone & spasticity |
| Stabdhang (stiffness of body part)   | Neck stiffness                         |
| Sasweda (excessive sweaeting)        | Impaired all extremities               |
| Nalakandhara (shoulders drooling down)| Grinding of teeth                     |
| Dantkhadi (grinding of the teeth)    | Difficulty in feeding &tounge thrust   |
| Stanadweshi (Aversion to breastmilk) | Speech affected due to oropharyngeal muscle involvement |
| Trasyanaroditivswaram (cries in abnormal voice) | Due to muscle tone and spasticity |
| Vakravktro (irregular face)          | Prominent drooling of saliva          |
| Vaman (vomiting)                     | Up rolling of eye                     |
| Lala (profuse salivation)            | Irritability                          |
| Urdhvanirikshte (gaze fixed upwards) | Clenched fist                         |
| Vasa asrug Gandhi (smell of muscle fat and blood) | |
| Udwigna (irritability)              |                                        |
| Badhmmusti (clenched fist)           |                                        |
| Badhhsakrit (non elimination of faeces of only one eye) | |
| Chalekakshi.ganda,bhrhu (movement of one brow and cheek only) | |
| Saraktaubhayalochana (redness of both eyes) | |

- **CHIKTSA (TREATMENT)**

As said before in general line of treatment absolute hygiene and immunity of the child is most important in skandagraha affiliated child. It can be divided in daivvapatrashra and yuktivyapasra chikitsa mentioned below.

- **SADHYASADAYATVA**

If a child loses movement of eyes, develops an aversion to the breast, repeated attacks of unconsciousness throw-out the day and at night is incurable kind of possession as well as manifested of all the symptoms of affraction by evil spirits [23]. A child who is suffering from faking of the hair, hazerenedness of eatables, feeble voice, discoloration, crying, smell of vultures coming out of the body, round nodules appearing on the stomach, elimination of faces, depression in the middle of the tongue and the palate becoming black [24].

## 10. QUADRIPLEGIC CEREBRAL PALSY

Cerebral palsy [25] (CP) is a term used to describe a group of motor syndromes resulting from disorders of early brain development. It is caused by a broad group of developmental, genetic, metabolic, ischemic, infectious and other acquired aetiologies that produce a common group of neurologic phenotypes. Because of the substantial motor impairment of both extremities and the strong connection with mental retardation and seizures, spastic quadriplegia is the most severe form of CP. As a result of supranuclear bulbar palsies, swallowing difficulties are common, leading to aspiration pneumonia. Athetosis is common in children with spastic quadriparesis, and they may be classed as having mixed CP. Affected children are typically hypotonic, with poor head control and significant head lag, and over time develop greater variable tone, rigidity, and dystonia. Feeding may be challenging, and drooling and tongue thrust may be noticeable. Because the oropharyngeal muscle is implicated, speech is usually impacted. Speech may be nonexistent or slurred, and voice modulation may be poor.

## 11. DISCUSSION

Grahroga is well mentioned by different acharyas in their samhitas. Acharya charak, Sushruta, Vagbhatta, Harita,describesgraha with its Purvarupa, samanyalakshan, samnyachikitsa. Acharya Sushruta and Acharya Vagbhatt both described well Skanda Graha based on their etiology factors, treatment and preventions than other acharyas. Their treatment protocol can be preventive prospectus [26] and rasayanabrihanchikitsa. According to Ayurveda, children can suffer from Grahroga due to
unhygienic conditions. So, maintain hygiene of mother/dhatri and child during the antenatal, natal, postnatal period is main preventive aspect. *Dhoopan karma* can be used in *Kumaragara* [27] or in labour room to prevent bacterias which lead to infections [28]. As cerebral palsy has symptoms like poor head control, impaired all extremities, increased muscle tone and spasticity etc which has resemblance with the symptoms of *sakandagraha*. It can be treated with *Daivavypashraya* [29] and *Yuktiyapashrya chikitsa* mentioned by acharyas. In *Daivavypashraya chikitsa*, main role is purity of mana which give happiness and stress-free life by various *Japa, Bali, Homa, Rakshavidhana* [30]. In all *grahas*, there are features of vatapredominancy (*prakopa*) that’s why treatment protocol should be *vaataghna* [31] with various medicated ghee for *abhyanga* and *parisechana* treatments reduces increased muscle tone, improves muscle bulk and power in CP children [32].

**12. CONCLUSION**

The study highlights the efficacy of "Ayurveda" which is an ancient tradition, used in some parts of India. This ancient concept should be carefully evaluated in the light of modern medical science and can be utilized partially if found suitable.

**CONSENT**

It is not applicable.

**ETHICAL APPROVAL**

It is not applicable.

**COMPETING INTERESTS**

Authors have declared that no competing interests exist.

**REFERENCES**

1. Shastri Ambikadutta, editor. *Sushruta Samhita of Sushruta, Volume II, Sutrasthana*, Chapter 27, verse 6. Reprint ed. Varanasi, India: Chaukhambha Publication. 2015;183.

2. F Max Muller and Commentary by Sayanacarya, *Rig Veda Samhita, Chapter 2*, verse 10-16, Krishnas Academy, Varanasi. 1983;1-4.

3. Shastri Ambikadutta, editor. *Sushruta Samhita of Sushruta, Sutrasthana*, Chapter 37, verse 6-9. Reprint ed. Varanasi, India: Chaukhambha Publication. 2015;2:154.

4. Vaidya jaimini Pandey with hindi commentary *Nirmala*, Harit Samhita, trityasthana, Verse no. 54/33,1 edition, Chaukhambha Publication Vishvabharati, Varanasi. 2010;483.

5. Vaghbhatta, Ashtanga Hridaya, uttarSthana Chapter 3 Balagraha Pratisedha versus 2; Hindi Commentary by Brahmananda Tripathi: Chaukhambha Sanskrit Pratishthana; 899.

6. Vaghbhatta, Ashtanga Hridaya, uttarSthana Chapter 3 Balagraha Pratisedha versus 2; Hindi Commentary by Brahmananda Tripathi: Chaukhambha Sanskrit Pratishthana; Delhi. 899.

7. Vaghbhatta, Ashtanga Hridaya, uttarSthana Chapter 3 Balagraha Pratisedha versus 32; Hindi Commentary by Brahmananda Tripathi: Chaukhambha Sanskrit Pratishthana; Delhi,903.

8. Kashyapa, Kashyapa Samhita, Sutra Sthana; chapter - Kshiritotpatti-adhaya versus 1-2; English commentary Prof. Premvati Tiwari, Chaukhambha Vishvabharati, Varanasi 2020.9.

9. Kashyapa, Kashyapa Samhita, Kalpa Sthana; chapter -Revatikalpa-adhavasuers 7; English commentary Prof. Premvati Tiwari, Chaukhambha Vishvabharati, Varanasi. 2020;351.

10. Shastri Ambika dutta editor. *Sushruta Samhita of Sushruta, Volume II, Sutrasthana*, Chapter 27,verse 6. Reprint ed. Varanasi, India: Chaukhambha Publication.2015; 183.

11. Yogratnakar of Dr Indradev Tripathi and Dr Dayashankar Tripathi, Hindi commentary Vaidprabha, Balarogchikitsasaprakran, verse 17, Chaukhambha Krishnas Academy; 837.

12. Shastri Ambika dutta, editor. *Sushruta Samhita of Sushruta, Sutrasthana*, Chapter 27, verse 6. Reprint ed. Varanasi, India: Chaukhambha Publication. 2015;2:142.

13. Vaghbhatta, Ashtanga Hridaya, uttarSthana Chapter 3 Balagraha Pratisedha versus 32; Hindi Commentary by Brahmananda Tripathi: Chaukhambha Sanskrit Pratishthana; Delhi page no. 903.

14. Vaghbhatta, Ashtanga Hridaya, uttar Sthana Chapter 3 Balagraha Pratisedha versus 3; Hindi Commentary by Brahmananda Tripathi: Chaukhambha Sanskrit Pratishthana; Delhi; 900.
15. Shastri Ambika dutta, editor. Sushruta Samhita of Sushruta, Volume II, Sutrasthana, Chapter 37, verse 18-20. Reprint ed. Varanasi, India: Chaukhambha Publication. 2015;201.
16. Vaghbhata, Ashtanga Hridaya, uttar Sthana Chapter 3 Balagraha Pratisedha versus 4-5; Hindi Commentary by Brahmananda Tripathi: Chaukhambha Sanskrit Pratishthana; Delhi page no. 900.
17. Shastri Ambikadutta, editor. Sushruta Samhita of Sushruta, Volume II, Sutrasthana, Chapter 28, verse 19-20. Reprint ed. Varanasi, India: Chaukhambha Publication. 2015;187.
18. Vaghbhata, Ashtanga Hridaya, uttar Sthana Chapter 3 Balagraha Pratisedha versus 42-46; Hindi Commentary by Brahmananda Tripathi: Chaukhambha Sanskrit Pratishthana; Delhi page no. 904.
19. Tewari PV, Kaashyap Samhita Sutrasthana, English translation and commentary, reprint, Chaukhambha Visvabharati, Varanasi, 2002;7-8
20. Vaghbhata, Ashtanga Hridaya, uttar Sthana Chapter 3 BalagrahaPratisedha versus 54-53; Hindi Commentary by Brahmananda Tripathi: Chaukhambha Sanskrit Pratishthana; Delhi page no. 905
21. Shastri Ambikadutta, editor. Sushruta Samhita of Sushruta, Volume II, Sutrasthana, Chapter 37, verse 10. Reprint ed. Varanasi, India: Chaukhambha Publication. 2015;200.
22. Shastri Ambikadutta, editor. Sushruta Samhita of Sushruta, Volume II, Sutrasthana, Chapter 28, verse 12-13. Reprint ed. Varanasi, India: Chaukhambha Publication. 2015;188.
23. Madhavkara, Madhav nidanac with commentary of madhukosa by Vijayarakita and Sriknthadatta, fistedition, Chapter 68, Verse no. 30, Chaukhambha Surbharti Prakashan, Puran Varanasi, India. 2014;1037.
24. Vaghbhata, Ashtanga Hridaya, uttar Sthana Chapter 3 Balagraha Pratisedha versus 29-30; Hindi Commentary by Brahmananda Tripathi: Chaukhambha Sanskrit Pratishthana; Delhi page no. 903
25. Kleigman, Robert; Nelson Textbook of Pediatrics. 18 Edition; Elsevier: 2(xxvi): 2494-2495.
26. Shastri Ambika dutta, editor. Sushruta Samhita of Sushruta, Volume II, Sutrasthana, Chapter 28, verse 18-20. Reprint ed. Varanasi, India: Chaukhambha Publication. 2015;186.
27. Sharma Hemraj, editor. Kashyapa Samhita of Vrudhhijivajaka, fourth ed. Varanasi, India: Chaukhambha Sanskrit Sansthan. 1992102.
28. Sawarkar, P, Sawarkar, G. Dhoopana-A Concept of Fumigation in Ayurveda. Journal of Pharmaceutical Research International, 2021;33(36A):225-248.
29. Shastri Ambikadutta, editor. Sushruta Samhita of Sushruta, Volume II, Sutrasthana, Chapter 37, verse 15. Reprint ed. Varanasi, India: Chaukhambha Publication. 2015;201
30. Shastri Ambika dutta, editor. Sushruta Samhita of Sushruta, Volume II, Sutrasthana, Chapter 28, verse 10. Reprint ed. Varanasi, India: Chaukhambha Publication. 2015;188
31. Shastri Ambikadutta, editor. Sushruta Samhita of Sushruta, Volume II, Sutrasthana, Chapter 28, verse 3. Reprint ed. Varanasi, India: Chaukhambha Publication. 2015;187
32. Gupta K, Mamidi P. Some efficacious Ayurvedic panchakarma procedures in children with cerebral palsy. Int J Complement Alt Med. 2018;11(1):3-42. DOI: 10.15406/ijcam.2018.11.00344

© 2021 Patel et al.; This is an Open Access article distributed under the terms of the Creative Commons Attribution License (http://creativecommons.org/licenses/by/4.0), which permits unrestricted use, distribution, and reproduction in any medium, provided the original work is properly cited.

Peer-review history:
The peer review history for this paper can be accessed here:
https://www.sdiarticle4.com/review-history/74115